S. HRG. 98-234, PT. 3

OMNIBUS WATER RESOURCES LEGISLATION

HEARINGS

BEFORE THE

SUBCOMMITTEE ON WATER RESOURCES

OF THE

COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

NINETY-EIGHTH CONGRESS

FIRST SESSION

ON

PENDING WATER RESOURCES LEGISLATION

JUNE 27, 28, AND JULY 18, 1983

PART 3

Printed for the use of the Committee on Environment and Public Works

23-515 O

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON : 1983

S321-31

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OMNIBUS WATER RESOURCES LEGISLATION

Dam Safety

MONDAY, JUNE 27, 1983

U.S. Senate,
Committee on Environment and Public Works,
Subcommittee on Water Resources,
Washington, D.C.

The subcommittee met at 10 a.m., in room SD-406, Dirksen Senate Office Building, Hon. James Abdnor (chairman of the subcommittee) presiding.

Present: Senators Abdnor and Bentsen.

OPENING STATEMENT OF HON. JAMES ABDNOR, U.S. SENATOR FROM THE STATE OF SOUTH DAKOTA

Senator **Abdnor**. The Subcommittee on Water Resources of the Committee on Environment and Public Works will come to order.

This hearing of the Subcommittee on Water Resources has been called to address the issue of the safety of dams constructed by both the public and private non-Federal interests. This is an issue which I and many of my Senate colleagues consider of great importance.

It is well known that the Federal Government has constructed many hundreds of dams throughout the country. What is not so well known is that there are more than 2 million federally constructed dams in the United States today. This hearing is intended to address the extent to which the safety of these dams is a serious problem, the capacity of the States to cope with the problem, and what role the Federal Government may play in resolving this issue.

I want to make it clear that there is a broad consensus that the primary responsibility for non-Federal dam safety lies with the States. However, I hope that today's hearings will help us clarify what new responsibilities if any the Federal Government should undertake in this area.

I am very pleased and honored to have the chairman of our sister committee, the Committee on Energy and Natural Resources, here to testify on dam safety legislation that he has introduced, S. 671. We certainly want to commend Senator McClure for his concern for dam safety and above all his persistence. I guess, Senator McClure, after reading the news items in the last few days if we haven't thought about dam safety before, we had better start thinking about it now because it is a very serious problem.

I know you are a busy man. We really appreciate that you have taken the time to come over here and testify personally today. So we will turn it over to you.

STATEMENT OF HON. JAMES McCLURE, U.S. SENATOR FROM THE STATE OF IDAHO

Senator McClure. Mr. Chairman, thank you very much. I appreciate the opportunity to appear before the Subcommittee on Water Resources to discuss a matter which has been a great interest of mine since the time I served on the Committee on Environment and Public Works and on this subcommittee. I feel very much at home in this hearing room and it is good to see the familiar faces on the platform and among the staff. I certainly commend the interest the subcommittee has shown in the dam safety issue as demonstrated by your willingness to hold this hearing and I commend you, Senator Abdnor, for your interest and leadership in the whole area of water resource development.

Today's hearing focuses on the serious problem we face with respect to the safety of the dams which exist in our country. It was after the Buffalo Creek failure in 1972 that Congress passed the National Dam Inspection Act, which directed the Corps of Engineers to inventory and inspect non-Federal dams and recommend a comprehensive dam safety program. The corp's inventory informed us of 49,329 existing dams over 25 feet in the United States; 20,000 of these are categorized by location as high hazard dams.

Prior to the expiration of its authority at the end of 1982, the Corps of Engineers inspected 9,000 dams for safety. The corps estimates that 33 percent of these dams are unsafe in varying degrees.

Perhaps, Mr. Chairman, the term dam safety should be stated more artfully, for the real issue is the serious nature of the potential damage to life and property which could result from the failure of even a small dam structure. Perhaps those of us who have had dam failures in our States feel that more strongly than others; it is an experience that a person does not soon forget.

I can attest firsthand to the immense and tragic losses that the people in the upper Snake River Valley of Idaho experienced as a result of the failure of the Teton Dam in June 1976. As a result of that tragedy more than 3,400 houses were damaged, 458 completely destroyed. Nearly 98,000 acres of some of our country's most fertile farmland was taken out of production. Millions of dollars worth of livestock and machinery were lost. Total damage to property was upwards of a billion dollars. It was nothing short of a miracle that the timing and advance warning of the dam's failure kept the loss of human life at only 11. Still, that is 11 lives cut short.

I will never forget the impact, the personal impact, flying over that area shortly after the disaster and seeing the almost indescribable scenes of devastation and destruction that were the result. It is my fervent hope that Congress not wait for another such disaster before being moved to take some responsible action toward insuring the soundness and safety of thousands of dams which exists within the United States.

The legislation which is the subject of this hearing was first introduced shortly after the failure of the Teton Dam and the Toccoa Falls Dam failure in Georgia had heightened our awareness and reinforced our desire to protect human life and property by promoting adequate dam safety programs. It passed the Senate during the 95th Congress, but due to time considerations the House was unable to consider it. It was subsequently reintroduced in the 96th and 97th Congresses, and on February 23 of this year I reintroduced it along with Senators Stafford, Randolph, Garn, Burdick, Inouye, and Moynihan.

I think my friends know that there is no one in this Congress who is more concerned about the growth of government and Federal programs, and the expenditure of tax dollars than I am. But I am more convinced than ever, that this is a responsibility that we must meet and an expenditure that we cannot afford not to make.

I also believe that the framework of the program set out in my bill is a reasonable approach toward making the expertise in the Federal dam building establishment available to the States as a means of encouraging their own dam safety, efforts. It is, if you will, one example of the New Federalism which was conceived somewhat earlier than the current administration's plans for revitalizing the State's role and responsibilities.

In looking into the dam safety issue following the Teton disaster, I learned that many States have adequate, well-managed dam safety programs functioning to protect the health and welfare of their citizens. A national dam safety program was not needed so much as some incentive or support from the Federal Government to get other States to develop their own programs, and the technical assistance needed to help each State develop a program to fit its own needs. The bill authorizes an ongoing program to assist States in developing and implementing dam safety programs. It creates an opportunity for the Federal Government to assist the States in this regard, and in return the States would meet certain criteria such as preconstruction safety reviews and periodic inspections.

I recognize that modest changes in the bill could improve the bill and perhaps be very helpful. For example, following testimony I heard as a member of this subcommittee, I became concerned about the reliability of the height and storage capacity criteria used as a measure of potential hazard in defining a dam requiring inspection. I believe it was demonstrated that under some circumstances even a very small, dam's collapse could generate a great deal of destructive energy, and the current limit does not represent a perfect cutoff point in terms of the potential problem. Of the some 2½ million dams falling below the limit, many thousands do form some basis for concern, and while I recognize that inspection of all 2½ million may be too much to ask for realistically, I would hope that we can adopt some means so as not to overlook the potentially hazardous.

In sponsoring this legislation, I recognize that no dam can ever be totally free from risk. What is important in any effective safety effort is a wise evaluation of that risk, and its minimization to the greatest degree. I remain convinced that the basic components of the bill are sound and responsible in that regard. The bill touches on other things as well, for example a section of dam liability insurance is included because at the time the bill was first introduced liability insurance was not available to dam owners because of the dam failures which had occurred.

We must also take into consideration those dams yet to be built and what kind of design and construction safety criteria they should meet in order to limit, as much as possible, the degree of risk involved in light of the cost restrictions. Accordingly, the bill provides for a dam safety review board to review existing Federal dam safety standards as well as the implementation and effectiveness of approved State dam safety programs.

As I have mentioned, the Federal involvement in a dam safety program should not interfere with a viable State program. If a State is willing to insure the protection of its citizens, the States should be able to develop the type of program that meets the needs of the State. The day-to-day dam safety program responsibility rests with the States and not with the Federal Government.

The Dam Safety Act of 1983 is an attempt to encourage States to establish their own dam safety programs. It is one alternative—a beginning in trying to solve the problem of finding effective safety standards while keeping in mind the cost of implementation and the cost to the owner for repairs.

It is my hope today that we can begin to tackle the problems associated with dam safety and this bill's attempt to solve them as well as answer the many questions that any dam safety program will raise that must ultimately be resolved. We cannot be satisfied with discussion alone. We must not let a paralysis of indecision keep us from taking steps to prevent another disaster someplace, some time, like the one we experienced in Idaho.

Thank you, Mr. Chairman. Again, let me say how much I appreciate the opportunity to be here this morning and I again commend you for your interest and your leadership in water resource questions. As you commented unfortunately there is more interest now than there was a month ago. Unfortunately we have seen that periodically from 1972 to 1976 to 1983. We have interest when there is a disaster. We find it difficult to focus interest in between those times.

Thank you.

Senator ABDNOR. Thank you, Senator McClure.

Let me say again I commend you for your persistence year after year on this subject. I suppose having witnessed first hand some of the incidences over those years leaves a lasting memory that you are not about to forget. You are right, this is a good time to be holding hearings on the problem. We are hearing about the problem from all over the United States. I'm told that we could have dam breakage in August from the melting. What is the situation?

Senator MCCLURE. I heard a weather report this morning that indicated that in spite of the flooding, in spite of the high record flows on the Colorado River, the highest since anybody has been keeping measurements they may have to open the gates on Parker Dam again. Mr. Chairman, there is a difference between a dam break and flooding from high water. The difference is the tremendous energy that is released.

The Teton Dam broke just below the mouth of the canyon, and where that dam was located there used to be a small community of

Wilford. I went up to Wilford after the water receded. There was nothing there, literally nothing there. You could tell where some houses had been because there were still some concrete curb and some sidewalks. But other than that, it was nothing. That is unlike what you see in an ordinary flood. I hope that people can recognize that we are not just talking about high water. We are talking about destructive energy.

Senator **Abdnor.** And loss of lives. Are most of the States that have this problem putting any kind of pressure on the Federal Government for this kind of legislation?

Senator **McClure.** The States desire some assistance because it is a massive problem. As I indicated, we found that some States have good dam safety inspection programs. They are actually doing a good job. There are States that have none.

Senator **Abdnor.** Do they put a restriction on until they are fixed?

Senator **McClure.** They usually put an operating restriction on the owner regardless of who that owner might be until the owner comes up with the repairs that are necessary.

Senator **Abdnor.** Of these 2 million dams, I suppose all of them sould be somewhat dangerous but there certainly is a need to identify the more serious ones. That could be a problem.

Senator **McClure.** If you have a large dam that meets the criteria that we have used but it is in a sparsely settled or an uninhabited area, the hazard is not nearly so large as a small dam that happens to be right upstream from a heavily populated area. A lot of those 2½ million dams that have been constructed in the United States are very old ones.

Many of them have been in existence for a hundred years. Many of them are in the northeastern or eastern United States. Many of those have no inspection program at all, none.

Senator **Abdnor.** I know you are very busy. We have a number of witnesses on this subject. I am sure you would be interested in reading some of the testimony of our other witnesses. We look forward to the leadership on the legislation. We wish you were back with Public Works.

Senator **McClure.** Thank you very much, Mr. Chairman.

Senator **Abdnor.** Brig. Gen. C. E. Edgar III? It is good to have you back, General.

General **Edgar.** Thank you, Mr. Chairman. Good to see you, sir.

Senator **Abdnor.** We are happy to have you here. We are on a subject that I guess is near and dear to a lot of people out in Senator McClure's area and mine. You may recall the flood that wiped out several hundred lives and the city some time ago in South Dakota. That is the type of thing we have been discussing. If you have any solutions for it or any responsibility it remains to be seen, but it is something that can't be taken lightly. So we really appreciate your taking the time and your associates time to come here and give us the benefit of your testimony today.

If you care to summarize, your entire statement will be made a part of the record.

STATEMENT OF BRIG. GEN. C. E. EDGAR III, DEPUTY DIRECTOR FOR CIVIL WORKS, U.S. ARMY CORPS OF ENGINEERS, ACCOMPANIED BY DONALD DILLON, DEPUTY FOR POLICY, PLANNING, AND LEGISLATIVE AFFAIRS, OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY FOR CIVIL WORKS; AND LLOYD DUSCHA, DEPUTY DIRECTOR OF THE DIRECTORATE OF ENGINEERING AND CONSTRUCTION, OFFICE OF THE CHIEF OF ENGINEERS

General EDGAR. Thank you, sir.

I am here today, Mr. Chairman, to address the subject of dam safety as you have requested and to present the Department of the Army's views on S. 671, the proposed Dam Safety Act of 1983. Accompanying me today are Mr. Donald Dillon, the Deputy for Policy, Planning, and Legislative Affairs at the Office of the Assistant Secretary of the Army for Civil Works and Mr. Lloyd Duscha, Deputy Director of the Directorate of Engineering and Construction at the Office of the Chief of Engineers.

Mr. Duscha also has the responsibility of being the corps' dam safety officer.

Mr. Chairman, you asked that I address several points related primarily to the safety of non-Federal dams in the United States. First, I believe there are a large number of dams with safety-related problems, most due to inadequate spillway capacity when compared to today's standards, but many have obvious structural weaknesses caused by deterioration or foundation problems. In our inspection of about 9,000 non-Federal dams, we found that about 33 percent, or 3,000 of the dams inspected were unsafe. This designation, however, does not necessarily indicate imminent potential failure, but does imply that further remedial measures or studies are necessary to insure safety. Approximately 80 percent of the dams classified as unsafe were due to inadequate spillway capacity by present day standards. About 130 of the unsafe dams required emergency measures to eliminate the potential for imminent failure.

Although most States have vastly improved dam safety programs over what we saw 5 to 10 years ago, many improvements can still be made, especially in the resources devoted to implementing their programs.

The second point you asked about is the need for new dam safety legislation and what the Federal role should be. I believe what is needed to improve non-Federal dam safety is that all States adopt some form of model dam safety legislation which has been supported by various technical organizations and that adequate resources then be devoted to implementing the various programs of permitting, inspection and oversight that such legislation incorporates.

The Federal role should be limited to providing advice, technical assistance and limited research and development. Further, any substantial amount of technical assistance and training should be done on a reimbursable basis. This role recognizes that the States and dam owners have the primary responsibility for the safety of non-Federal dams.

The last issue I would like to address is the legislation contained in S. 671. It is of interest to note that this bill is proposed as an amendment to the National Dam Inspection Act of 1972, an act limited to the inspection of non-Federal dams and an inventory of all dams. Although S. 671 is concerned primarily with the safety on non-Federal dams, it does contain several provisions which deal exclusively with Federal dams and which we believe would be better handled in separate legislation if any is needed.

S. 671 proposes to amend the National Dam Inspection Act of 1972 (Public Law 92-367) to authorize a national program to encourage dam safety. The Department of the Army position continues to be that the safety of non-Federal dams is a responsibility of the States and dam owners. We concur with the general intent of the proposed legislation that States should move forward, establishing and implementing effective dam safety programs, and support some of the provisions of the act. However, we are opposed to the major provisions of the legislation which would assign to the Federal Government significant financial responsibilities for non-Federal dam safety.

The various provisions of S. 671 are grouped into five basic headings. These are (1) size of dams, (2) right of entry, (3) contractor liability, (4) State assistance program, and (5) reporting on dam safety. I will cover the Department of the Army position on the provisions in the same order.

SIZE OF DAMS

Army opposes changing the definition of the term "dam" as used in the act to remove the minimum size limit. The proposed change would drastically expand the inventory of dams to include very small dams and the cost of the program would be disproportionate to the potential benefits.

RIGHT OF ENTRY

Army opposes any further Federal inspection of non-Federal dams. The Corps of Engineers completed an inspection of all high-hazard non-Federal dams in 1981 and in the process assisted the States in developing their own inspection programs. Changes in the 1972 act relating to inspection of non-Federal dams are undesirable and would be inconsistent with the administration's position that the States should have this responsibility.

CONTRACTOR LIABILITY

We see no need to amend the 1972 act to further limit the liability of agents or contractors of the United States since we do not support further involvement of the Federal Government in the inspection and related aspects of the safety of non-Federal dams.

STATE ASSISTANCE PROGRAMS

We do not concur with the assistance programs that would be established under this heading. It is inconsistent with our basic position that States and dam owners should undertake their own dam safety programs. We would not object, however, to providing technical advice on dam design or inspection on a reimbursable basis.

Furnishing such services would be in keeping with the corps "Federal Engineer" role that we are undertaking to make available our diverse engineering and construction expertise to Federal, State, and local agencies on a reimbursable basis when consistent with our other responsibilities.

The provision of section 11, which would establish a Federal Dam Safety Review Board, is particularly objectionable from the standpoint of introducing potential delay by requiring another review prior to initiation of construction of authorized projects. We believe it is unnecessary. Steps have been taken to strengthen Federal dam safety by having all agencies with responsibilities for Federal dams review their procedures and by having an interagency ad hoc committee develop management guidelines for improving dam safety.

Moreover, the "Federal Guidelines for Dam Safety" recommend independent project review and various checks to assure that agencies have addressed the safety issue in their project reports. In addition, an Interagency Committee on Dam Safety (ICODS) has been established under the aegis of the Federal Emergency Management Agency. That committee is essentially performing the review of standards cited in the amendment. Mr. Duscha ably represents the corps on that committee.

I believe these actions will result in sufficient attention to safety matters for Federal dams. The proposed Board would be unwieldly and create doubt as to the ultimate responsibility for the safety of Federal dams.

With regard to section 12, the Department of the Army would not oppose the requirement for Federal dam building agencies to consult with States on the design and have the States participate in safety inspection of Federal dams, as long as this does not imply that the States would have final approval authority.

We do not object to section 14 which provides for research to develop improved techniques and equipment for dam safety monitoring and inspection. This program could provide useful information for both Federal and non-Federal dam safety programs. However, I would caution the committee that the amount of definitive information which can be gained from instrumenting old dams will be limited compared to the cost involved.

We support section 15 which would authorize the corps to maintain and periodically publish updated information on the inventory of dams. We are also preparing proposed legislation for maintaining the inventory.

REPORTING OF DAM SAFETY

We are opposed to including in feasibility reports specific information on dam safety as would be required by section 2 of this act. It is not possible at this time to assign a statistical probability to dam failure. The Federal Guidelines for Dam Safety dated June 25, 1979, recognize this limitation of risk-based analysis.

Finally, while we support section 15 and do not object to sections 12 and 14, we cannot support this bill in its present form because it would assign to the Federal Government significant financial responsibilities for non-Federal dam safety.

Mr. Chairman, this concludes my presentation. I will be glad to answer any questions which you or committee members may have on this matter.

Senator **Abdnor**. Thank you, General.

I was just wondering. Is there any level of funding that you could support?

General **Edgar**. We would need a level of funding on maintaining the dam inventory, sir. A general estimate I think would be about half a million dollars.

Senator **Abdnor**. That is the only area where you would support the Federal funds, none of the technical help?

General **Edgar**. That is correct, sir. The other work we would do, technical assistance or other support to the States would be done on a reimbursable basis, if long and involved. We do already receive money in the budget for limited technical assistance.

Senator **Abdnor**. Let me ask you something else. When you were giving your statement you said I would caution the committee that the amount of definitive information which can be gained from instrumenting old dams would be limited compared to the cost involved. Is it impossible to get the kind of information that we want? What are you saying there?

General **Edgar**. You can get that information if you instrument it. However, the cost of instrumentation is expensive. The amount of data that you get would be limited. Mr. Duscha may wish to comment on that a little bit further.

Senator **Abdnor**. Give us some idea. What are we talking about in dollars?

Mr. **Duscha**. I don't know how you talk about it in dollars for the total number of dams in the United States, but when you are going to an instrumentation program you have to consider that you have to read the instruments on a continuous basis. You have to interpret the data on a continuous basis. So you have to make some investment. There is nothing wrong with instrumentation as such and there should be some instrumentation in almost every dam that is built. But I think if you are going to rely totally on instrumentation without relying on inspections and other things to determine the condition of the dam then you are probably exposing yourself to the condition you really don't want.

Senator **Abdnor**. Does anybody have an idea of what we are talking about in cost? If you are going to be against something, you ought to know why.

Mr. **Duscha**. I think if you are talking about large dams in the United States that the Corps of Engineers owns, we are talking about $50,000 to $75,000 a year in expenses for instrumentation. Certainly you won't have to have that elaborate type of instrumentation system in some of the smaller dams in this country. We could furnish for the record an estimate of what we feel this would cost if you so desire.

Senator **Abdnor**. To get that figure you are going to have to come up with an average. So we would like to break it down if we can.

[The information referred to follows:]

For safety purposes an instrumentation program for an intermediate size dam with no special problems could range from $50,000 to $75,000 on the average for the initial installation and $5,000 to $10,000 per year for collection, reduction and evaluation of the data. For small dams the costs would average somewhat less. For large or complex dams with special problems, the cost would be many times the above. Addressing instrumentation costs on an average basis is misleading. Each dam has its peculiarities and the necessary instrumentation must be designed accordingly.

Senator **Abdnor**. It is a sad thing when a dam bursts. I have a lasting memory from my own experience in South Dakota, when people and property got wiped out. It is hard to measure that in terms of just dollars. I think we need to give some serious thought to this problem and obtain expertise to get the facts. So we want to put together all of the figures that we can to see where we can go on the subject of dam safety.

Like Senator McClure said, it comes back to haunt us every once in a while and we quickly forget. But it doesn't change the status of the dams and we wonder which one could be next.

What is the present status of the dam safety programs in the States themselves. How is it doing? Are they doing a decent job to your knowledge?

General **Edgar**. Mr. Chairman, I think we can categorize the present status as being much impoved from what it has been in the past. You will recall when General Heiberg testified to you last time he indicated that there were 10 States which would meet the criteria of what is contained in section 8 of Senator McClure's bill.

Today, 16 States would meet the criteria of section 8, 15 more would meet all of that criteria except for funding and 22 States and territories have programs which would not meet the criteria. That is not to say they don't have a program; they do have a program which is being undertaken in some aspects. So I think it would be fair to categorize it as there is improvement and the States are moving forward from where they had been.

Senator **Abdnor**. Do you think funding contributes to those States that are moving forward?

General **Edgar**. Yes, sir. I think funding certainly is key insofar as the States are concerned because that ultimately results in difficulty when you don't have the money. There is a lack of staffing on the parts of some States to fulfill their program even though it is on the books.

Senator **Abdnor**. That is more of a problem than any other factor?

General **Edgar**. Yes.

Senator **Abdnor**. Is there any correlation between those States that are not moving forward on this and those that are lagging behind?

General **Edgar**. I think budgetary problems, if I understand the question——

Senator **Abdnor**. I mean dollars. Are they just short of funds?

General **Edgar**. Yes, sir. The availability of money to assign to the program is my understanding of the prime difficulty.

Senator **Abdnor**. I don't want you to name them here, but you people know what States are doing what and can you list them for the record?

General **Edgar**. Yes, sir. I can provide you the listing of the States that would reflect the numbers that I have given you a few moments ago. I will do so for the record.

[The information requested follows:]

The states with adequate dam safety programs and meeting the requirements of section 8 of S. 671 are: Arizona, California, Colorado, Georgia, Kentucky, Maryland, Nebraska, New Jersey, New Mexico, North Dakota, Pennsylvania, Rhode Island, South Carolina, Texas, Utah, and Wyoming.

During the execution of the inspection program funding was provided by the Federal government and there was basically no state investment in the program in terms of costs. However, the sixteen states above, and Illinois and Indiana, indicated that they would provide adequate funding to regulate the dams in their state after the Federal program was completed.

In addition fifteen more states have adequate dam safety programs, except for adequate funding. These are: Connecticut, Florida, Idaho, Iowa, Louisiana, Michigan, Minnesota, New Hampshire, New York, North Carolina, Ohio, Oregon, Tennessee, Virginia, and Wisconsin.

Senator ABDNOR. Do you how much is spent by each state? Do you have that?

General EDGAR. Sir, I don't know if we have it. If we do we will provide it for the record.

Senator ABDNOR. Let me ask you this. Does the corps receive requests from States, cities, or other non-Federal dam owners for technical or other types of assistance with regard to dam safety?

General EDGAR. I think we have received some, sir.

Senator ABDNOR. Why don't you provide that for the record?

General EDGAR. All right, sir.

Senator ABDNOR. That would be quicker and we will have it.

[The information requested follows:]

Total state spending for dam safety is unavailable. However, as stated previously, there was basically no investment by the States during the inspection of non-Federal dams under the National Dam Inspection Act. We provided technical assistance to the states during the inspection program, but have provided little or none since the program was completed. Technical assistance provided since the program was completed has been basically routine emergency assistance. Several states have asked for technical assistance with recent requests coming from California, North Dakota, Utah, and Georgia in just the past flood season.

Senator ABDNOR. In the final report on the inspection program the corps suggested removing any restrictions on block grants to States to allow for their use in dam safety activities. Is this still the corps' position?

General EDGAR. Yes, sir, Mr. Chairman. It is.

Senator ABDNOR. You propose establishment of such a fund for block grants?

General EDGAR. I think there are restrictions on block grants and if dam safety inspection would be an authorized procedure under block grants that the States receive, it would address the difficulty that we discussed a few moments ago on the funding of the program.

Senator ABDNOR. Do you think then that would be preferable to the loan program as suggested in S. 671? The block grant?

General EDGAR. Yes, sir.

Senator ABDNOR. Of almost 3,000 dams that were found to be unsafe during the inspection program, most have inadequate spillways as their only deficiency. Let's talk about the spillways for a minute because they seem to be a problem. What are the corps' spillway criteria?

General EDGAR. Sir, we used three criteria. First, high hazard which is related to loss of life downstream, the second element was failure resulting from overtopping which would significantly increase the hazard downstream, and third, the spillway not capable of passing half of the probable maximum flood. The probable maximum flood is defined as a flood that may be expected from the most severe combination of critical meteorologic and hydrologic conditions that are reasonably possible in the region.

I might add, Mr. Chairman, that the corps' own criteria when we are building our own dams is not one-half PMF, but we use the probable maximum flood as the design criteria.

Senator **Abdnor**. Do the States complain about the criteria? Are they rather high?

General **Edgar**. Sir, I am not aware of the States complaints. We might check the record on that. I would say that there have been a number of non-Federal dam owners that did express concern about the criteria that we used in the inspection program. But I will provide for the record any States that may have made such a concern known.

Senator **Abdnor**. I think we would like that.

[The information referred to follows:]

Many states complained to Corps program coordinators in the field that the spillway capacity criteria were too stringent. Also, we have letters from the states of New York, Pennsylvania, and Texas pertaining to spillway criteria.

Senator **Abdnor**. Are there still large numbers of potentially hazardous dams that have not been inspected to determine whether they are unsafe? Do you know?

General **Edgar**. Sir, in discussion here with Mr. Duscha, we think we have inspected all of the high hazard dams at this stage of the game under the criteria that we used.

Senator **Abdnor**. A recent CBO report estimates the cost of rehabilitating non-Federal dams to be $6.8 billion over 10 years. Are you acquainted with this? Do you feel this is a realistic estimate?

General **Edgar**. Sir, that is a hard one to answer not having had an opportunity to look at the report.

Senator **Abdnor**. Will you do that?

General **Edgar**. Yes, sir. I would be pleased to review that report and provide it for the record.

Senator **Abdnor**. I would appreciate that.

[The information referred to follows:]

We do not have a sufficient data to substantiate or refute the CBO conclusion. The data we do have for 48 dams which have had some remedial measures show an average cost of about $250,000 per dam. We caution that this figure is not based on a sufficient statistical base to be used as an average cost of making the necessary remedial measures for all dams and should not be used to substantiate the $6.8 billion over a ten year period mentioned in the CBO Report.

Senator **Abdnor**. I have some other questions we may submit to you in writing if you don't mind.

General **Edgar**. All right, sir. We would be delighted to respond.

Senator **Abdnor**. We appreciate you and your associates coming this morning and giving us the benefit of your expertise. It is good to have you all here, Mr. Dillon and Mr. Duscha. If you gentlemen don't mind, we will feel comfortable in asking you to answer questions which we will supply to you in writing.

We thank you very much for attending our hearing this morning.

General **Edgar**. Thank you very much, Mr. Chairman.

[Responses from the Corps of Engineers to written questions follow:]

Questions to the Corps of Engineers for the
June 27, 1983 Hearing Record

Question: 1. Assuming no new Federal legislation, will there be improvement in dam safety programs in the forseeable future? Please explain in as much detail as possible, why or why not.

Answer: It is impossible to predict results with or without new Federal legislation. Many states have not recognized the need for assuming the responsibility for dam safety and are not currently staffed to exercise that responsibility. Until there is more public awareness of dam safety and public pressure is brought to bear on state and local officials, I do not anticipate much improvement in state dam safety programs in the forseeable future.

If the responsibility for dam safety is turned over to the states, and no significant federal aid is forthcoming, we expect that immediately at least a third of the states will continue to act quite competently as they are now doing. We expect another 9 or 10 states to perform poorly in regards to dam safety and the remaining 24 or so states to operate effectively with room for improvement.

Question: 2. Is there presently any Federal law which effectively encourages states to develop adequate dam safety programs? If S. 671 were amended as the Corps suggests in its testimony, would it then serve to encourage adequate State programs? How might S. 671 be amended to achieve both this goal and the goals of the Administration?

Answer: There is no active Federal law which will encourage the states. Public Law 92-367 and the ensuing Corps Inventory and Inspection Program helped by drawing attention to the magnitude of the problem. That response probably peaked in 1981 and state legislatures and administrations change continually, so the influence P. L. 92-367 could be diminishing.

S. 671 would be an improvement over the present situation because the inventory would be current and Federal agencies would take care of research and provide uniform minimum evaluation standards. It would not insure adequate state dam safety programs.

Accomodating the Administration's goal and the Committee's goal with legislation may prove difficult. The Administration believes dam safety is a state responsibility. There is a question as to whether such responsibility can be developed without outside influence.

Question: 3. Would it be correct to say the following: Since many states have inadequate dam safety programs, either due to insufficient funds, inadequate legislative authority, or other reasons, citizens in those states have either inadequate or no ongoing protection from potentially unsafe non-Federal dams? If not, why not?

Answer: Yes, one could say that citizens in some states do not have adequate protection from potentially unsafe non-Federal dams.

Question: 4. How many non-Federal dams large enough to be inventoried are constructed annually in the U.S.?

Answer: Between 1960 and 1970, 21,000 non-Federal dams were built. This rate slowed from 1970 to 1980 when about 16,000 were built. It can logically be concluded that the present annual rate is even lower than 1600 dams.

Question: 5. Would it be safe to say that as more dams are constructed and existing dams get older, and unless dam safety efforts improve. the problem will get worse?

Answer: Yes, it can be expected that the problem will get worse if existing dams are not maintained. New dams constructed in states with adequate dam safety programs will not add to the problem, but for states with inadequate programs the problem will likely be compounded.

Question: 6. It has been suggested that risk assessment procedures be used in conjunction with cost data to make priority decisions regarding repair of unsafe dams. Is this procedure sufficiently advanced to be used to set priorities for dam repair?

Answer: As risk assessment procedures can take many forms, it is hard to be specific.

It is not possible at this time to assign a statistical probability to dam failure. The Federal Guidelines for Dam Safety recognized this limitation of risk-based analysis and acknowledge it as a recent technique just beginning to be developed. The Guidelines state, "even when fully developed, risk analyses cannot be used as a substitute for sound professional judgement of engineers, contractors, or review boards." Research on risk assessment is ongoing. In any priority setting mode, the potential downstream damages caused by failure would likely be the governing criteria.

Question: 7. You mention that the "Federal Guidelines for Dam Safety" recommend independent project review of Federal dam construction activity. Is independent review of Federal projects going on at present? Who are the independent reviewers?

Answer: Independent review of design and construction of Federal dams is an on-going activity at present. As outlined in the "Federal Guidelines for Dam Safety", the need for review of a dam by independent experts from outside the agency should be determined on a case-by-case basis, depending on the degree of hazard, size of the dam, complexity of the site geology, complexity of the design, or a specific need perceived by the public.

These independent consultants are individuals recognized throughout the industry as eminent in their area of specialization and may be working as individuals, or employees of engineering firms or major universities.

The "Federal Guidelines for Dam Safety" recommend that a board of consultants be used. It also gives guidance on the makeup of the board and how often they should meet. The Federal agencies are currently hampered in the use of consultants. The Federal Advisory Committee Act (PL 96-523) does not allow the use of "Boards of Consultants". Therefore, individual consultants must be used which handicaps the process.

Question: 8. Would the Corps oppose a study of the necessity and implications of a Federal reinsurance program as proposed in S. 671?

Answer: The Corps of Engineers is not opposed to having a study done. However, we feel that other agencies, such as FEMA, are more qualified to do the study.

Question: 9. Of the almost 3000 dams that were found to be unsafe during the inspection program, how many of those have undergone remedial measures? How many of these owners have not repaired their dams due to insufficient funds?

Answer: At the completion of the program in 1981, dam owners were not implementing remedial measures recommended for unsafe dams at a satisfactory level. Of the 2925 dams evaluated as unsafe, remedial work had been completed on only 161, and initiated or scheduled on about 845. Dam owners cited their inability to finance remedial measures and their non-acceptance of the evaluations of dams with inadequate spillways as their primary reasons for their failure to implement remedial measures. We have no knowledge of the number of dams not repaired because of insufficient funds.

10. Amend S. 671. 98th Congress as follows and make the necessary revisions to number and letter designations of unaffected provisions of the bill.

A. Add at page 3, line 7: "(c) Block Grants. - Add the following sentence at the end of Section 3: 'No restrictions in any Federal block grants to the States act or shall be construed to act to prevent the use of funds therein provided for dam safety related purposes.'"

B. Add at page 3, line 14: "(d) Non-Federal Dams on Federal Lands. - Add the following new section 7: "Sec. 7. In addition to being in compliance with other applicable provisions of law, the construction, operation, and maintenance of non-Federal dams that are located on lands owned by the United States shall comply with dam safety requirements of the Federal agency responsible for administering the lands."

C. Delete the words ... "owner for any dam" ... on line 10, page 8 and insert in lieu thereof the following: ... "State or its political subdivision for any dam owned by the affected State or political subdivision, and whose major purposes are public water supply and flood protection".. .

D. At the end of "Sec. 15," page 10, line 22, add the following sentence: ..."The Secretary is authorized to notify the Administrator of the National Oceanic and Atmospheric Administration of the location of all dams with unsafe spillways to enable special alerts during periods of unsafe flows."

E. Delete the period at the end of line 6, page 1 and insert the following: ..."and adding the following at the end of the first sentence: or (3) does not meet the criteria of (1) or (2) but in the opinion of the Secretary of the Army, acting through the Chief of Engineers, constitutes a significantly greater threat to human life than most such barriers not meeting the criteria of (1) or (2)."

Senator ABDNOR. Our next witness is Richard Krimm, director, Natural and Technological Hazards Division, Office of State and Local Programs and Support, Federal Emergency Management Agency. Again, we welcome you. I am sure you have some worthwhile thoughts and facts for us on the subject of dam safety.

STATEMENT OF RICHARD W. KRIMM, DIRECTOR, OFFICE OF NATURAL AND TECHNOLOGICAL HAZARDS PROGRAMS, OFFICE OF STATE AND LOCAL PROGRAMS AND SUPPORT, FEDERAL EMERGENCY MANAGEMENT AGENCY, ACCOMPANIED BY WILLIAM BIVINS, SENIOR POLICY SPECIALIST

Mr. KRIMM. Thank you very much, Senator.

Accompanying me today is William Bivins, the senior policy specialist for our role in the dam safety program.

In your invitation you asked that we address the severity of the dam safety problem, the present and anticipated future adequacy of State dam safety programs, and specific revisions of S. 671 as introduced by Senator McClure.

The Federal Emergency Management Agency was created in 1979 as the executive agency to serve as a single point of contact within the Federal Government for emergency management activities and coordinator with States on such matter. Under the authority of Executive Order 12148, FEMA "coordinates activities to promote dam safety." We have initiated a number of activities supportive of national dam safety. The FEMA dam safety program has progressed on two fronts: the Federal and non-Federal dam safety effort.

The safety of Federal dams requires the effort and the attention of 19 agencies and bureaus represented as members of the Interagency Committee on Dam Safety (ICODS). Through its position as chair of ICODS, FEMA serves a coordination role, creating an atmosphere and setting whereby agencies can jointly address issues adversely affecting their abilities to resolve dam safety issues. Under FEMA's leadership, subcommittees of ICODS are progressing in the areas of consensus technical guidelines, training, emergency action planning, interagency coordination, and communication.

The greatest dam safety problems involve non-Federal dams, the safety of which is the responsibility of the dam owner and the State. About 46 States have enacted dam safety legislation and about 21 have programs to implement the statutory authority.

FEMA is working with other Federal agencies, especially those in the ICODS, to address the problems of Federal and non-Federal dams. For example, FEMA is working through Stanford University to tailor probabalistic risk analysis to dam safety needs. The first phase methodology provides a means of ranking dams (for example, all unsafe dams in a State) for further analysis or rehabilitation. The second phase will allow dams to be specifically evaluated and the societal risk associated with the dam can be directly compared with the risk of other hazards (for example, decaying highways, bridges, water, and sewer system and toxic waste repositories.) Other Federal agencies are, consistent with the "Federal Guidelines for Dam Safety" developing and, in some cases, applying risk analysis to dam safety issues.

As another example, a subcommittee of ICODS has drafted "Emergency Action Planning Guidelines." The EAP guidelines, while principally for the member agencies, have been developed in such a way as to be helpful to owners of non-Federal dams as well as State and local officials. When complete, the EPA guidelines will be made publicly available by FEMA.

FEMA in fiscal year 1983 initiated a modest State dam safety financial assistance program. The program provides seed money to States to achieve the following goals:

Strengthen dam safety legislation at the State level, insure the recognition of the legal and financial responsibility of dam owners for dam safety, and establish a State mechanism to monitor and enforce existing dam safety laws, rules, and regulations.

Decrease the reliance on Federal funding and/or technical support in the area of dam safety through the establishment or strengthening of financially and technically independent State and safety programs, or the establishment of cooperative agreements among States to carry out dam safety activities.

Perpetuate active programs whereby existing or future dam safety deficiencies identified by Federal, State, or local governments are expeditiously corrected.

Perpetuate active programs whereby disaster preparedness plans associated with dam failure events are formulated and periodically tested and updated. Essential to this program will be community awareness and involvement in preparing for dam failure events.

Extension and integration of dam safety programs into multihazard identification and response programs.

In this, the initial year of the program, FEMA was able to award seed funding to Connecticut, Georgia, Minnesota, New York, Pennsylvania, Vermont, and Wisconsin. The awards totaled approximately $223,000. The types of activities to be funded include:

Classify and rank dam for hazard assessment.

Improve dam inspection program.

Develop a comprehensive emergency action planning guideline to include response, recovery and mitigation of catastrophic dam events.

Publish manual for owners addressing operation, maintenance, and inspection.

FEMA also encourages active State participation in dam safety efforts through workshops in Arizona, Colorado, Connecticut, Michigan, Pennsylvania, New Hampshire, New York, Texas, Washington, and West Virginia. I might just add that I attended the workshop in Colorado and there are over 300 people participating in that workshop. These workshops provide a forum for Federal and State officials, owners, engineers, business leaders, and concerned citizens to discuss dam safety problems and solutions.

It is important to note that the Federal role in non-Federal dam safety matters should appropriately be limited to providing advice, technical assistance, and limited research and development to the States and dam owners. This role recognizes that the States and dam owners have the primary responsibility for the safety of non-Federal dams.

The U.S. Army Corps of Engineers has previously testified to the substance of S. 671. However, we wish to further endorse section 15 of this bill which could authorize the Corps of Engineers to maintain and periodically update the national inventory of dams.

Mr. Chairman, this concludes my presentation. Both Mr. Bivins and I will be glad to answer any questions which you or committee members may have.

Senator **ABDNOR**. We appreciate your coming, Mr. Krimm and bringing Mr. Bivins with you. Obviously you have given a lot of attention and thought to dam safety which I am pleased to see. How do you feel about the bill? Could you support S. 671?

Mr. **KRIMM**. No, other than giving the corps the opportunity to continue their inventory and update of dams throughout the country.

Senator **ABDNOR**. I was very interested in seeing you working with Stanford University as to dam safety needs. Is that still going on right now?

Mr. **KRIMM**. Yes, it is.

Senator **ABDNOR**. The first phase you speak of is methodology; providing the means of ranking dams? Is that ready to go?

Mr. **KRIMM**. I am going to let Mr. Bivins address that. He is the project manager for that particular study.

Mr. **BIVINS**. Thank you, Mr. Chairman, in fact we just received the preliminary drafts of the first phase and in essence that phase is complete. The contractor will be working on the second phase, that is, the ability to compare various hazards, one against the other.

Senator **ABDNOR**. Can we have a copy?

Mr. **BIVINS**. Yes.

Senator **ABDNOR**. Do you have it now? It would seem to me this would be a constructive piece of material to have in relation to the legislation.

The second phase is presently under way. Is that right? The one dealing with evaluating risks, one with the other you were saying?

Mr. **BIVINS**. Yes.

Senator **ABDNOR**. When will that be complete?

Mr. **BIVINS**. We hope that that will be complete by the end of this fiscal year, September of this year.

Senator **ABDNOR**. Could you tell us, Mr. Krimm, the part you played with respect to the recent dam failure in Utah?

Mr. **KRIMM**. In Utah?

Senator **ABDNOR**. Yes.

Mr. **KRIMM**. Our role would be more through the disaster assistance program in providing assistance under a Presidentially declared disaster. I don't believe this has yet been declared as a Presidential disaster.

As far as the dam safety effort is concerned, we have been working in Utah on dams. And in fact as part of the integrated emergency management system in FEMA, we are looking at relationship of earthquakes and dams in Utah.

There is a hospital in Utah which built its emergency room below the surface of the ground so that in the event of an earthquake, the emergency room would withstand as much shock as possible. However, there is a dam located above the hospital and in the event of an earthquake, the dam could break and, therefore, flood the hospital.

So we are trying to look at this type of thing in regards to dam safety in Utah.

Senator **Abdnor.** You said you had workshops working with the States.

Have you seen quite an improvement in the activity on the part of the State? How about those States that are not moving forward?

Are you working on that?

Mr. **Krimm.** We have been very encouraged by the interest and participation in the workshop throughout the country.

Senator **Abdnor.** How many staff do you have?

Mr. **Krimm.** We have a total of five people working on the dam safety program two in headquarters and three in the regional offices. I should mention that in the regions, these people very often only spend half of their time on dam safety but it adds up to a total of 3 for our 10 regions.

Senator **Abdnor.** Mr. Krimm, we may submit questions to you in writing. I do want to afford time to Senator Bentsen who has come in.

Senator **Bentsen.** Thank you, very much, Mr. Chairman.

I have been in the Finance Committee on a tax issue and apologize for not being here.

I have a very deep interest in the subject. We have, in my own State, quite a number of dams that are in very serious stages of deterioration and danger. I won't comment at this time.

Senator **Abdnor.** Thank you for coming.

Again, we may submit some questions in writing.

Mr. **Krimm.** Thank you, very much.

[Responses to written questions follow:]

Federal Emergency Management Agency
Washington, D.C. 20472

AUG 8 1983

Honorable James Abdnor
Chairman, Subcommittee on
Water Resources
Committee on Environoment and Public Works
Washington, D. C. 20510

Dear Senator Abdnor:

Enclosed are our responses to your questions of June 29, 1983, on dam safety and related matters. We are pleased to have the opportunity to assist you and the Subcommittee staff.

During our testimony before your subcommittee, on June 27, 1983, we promised to provide certain reports on risk analysis research which we are sponsoring at Stanford University. These reports are still in the preliminary stages of development. We will be forwarding to the Committee, the most recent copies of these reports within the coming weeks. Should you require any additional information please feel free to contact me.

Sincerely,

Richard W. Krimm
Assistant Associate Director
Office of Natural and
Technological Hazards

Enclosure

Q.1. TO BE JUDGED ADEQUATE IN TERMS OF PROTECTING HUMAN LIVES AND PROPERTY, WHAT CHARACTERISTICS (SUCH AS PERSONNEL, FUNDING, ADEQUATE STATUTORY AUTHORITY, INSPECTION PROGRAM, ETC.) SHOULD A STATE DAM SAFETY PROGRAM POSSESS? WHICH STATES MEET THESE CRITERIA? WHICH STATES DO NOT AND FOR WHAT REASON(S)?

A.1 The United States Committee on Large Dams (USCOLD) prepared a "Model Law for State Supervision of Safety of Dams and Reserviors" in 1970. The Model Law is widely accepted as an appropriate guide for strengthening or developing non-Federal legislation in the States. The Corps of Engineers recommended, as a part of the National Program of Inspection of Non-Federal Dams, that State programs be implemented based on the USCOLD Model Law. Further, the National Academy of Sciences Committee on the Safety of Non-Federal Dams recommended that States adopt the USCOLD Model Law.

We also recommend that State legislation, supportive of dam safety programs, be based on the USCOLD Model Law with, however, certain modifications. The Model Law (copy attached) calls for legislation to support the following:

(1) Review and approve plans and specifications to construct, enlarge, modify, remove, or abandon dams.

(2) Perform periodic inspections during construction ensure compliance with approved plans and specifications.

(3) Issue certificates of approval permitting the impounding of water after construction.

(4) Investigate dams and reservoirs at least every five years to determine their continued safety.

(5) Issue notices to require owners of the dams and reservoirs to perform maintenance or remedial work, revise operating procedures, or take other actions, including breaching dams when deemed necessary.

In addition, we believe that the States should also:

(6) Adopt rules and regulations for the purpose of carrying out the legislative authority.

(7) Require a bond or fee as part of the construction permit process and as a part of the periodic investigation process (item 4, above).

(8) Require emergency action plan for each dam.

Finally, there should be adequate funding and personnel to implement the program. In summary form, an appropriate dam safety program would possess the following attributes:

(1) Dam safety Legislation,
(2) Implementing rules and regulations,
(3) Review of plans and specifications,

(4) Inspection during construction,

(5) Require impounding permits,

(6) Periodic inspection of completed structure,

(7) Require remedial measures,

(8) State funding,

(9) Technical staff.

A recently completed survey by Dr. Bruce A. Tschantz of the University of Tennessee provides insight into which States have

adequate programs. Based on the fine USCOLD Model Law factors 22 States have adequate programs. However, if rules and regulations, fee or bond and emergency action planning requirements are included, only four States meet the test. These are California, Idaho, Ohio and Pennsylvania. Dr. Tschantz's report indicates the shortfall in the other States

Q. 2. HAS YOUR WORK WITH STATE DAM SAFETY PROGRAMS INDICATED THAT THEY WILL IMPROVE WITHOUT NEW FEDERAL LEGISLATION OR FUNDING ASSISTANCE OF SOME KIND?

A. 2. When the Corps of Engineers completed the National Program of Inspection of Non-Federal Dams in September 1981, they concluded that only 16 States had adequate dam safety programs. A study by Dr. Tschantz completed for FEMA (see Question 1) shows that 22 States have adequate programs if the same criterion is applied. Thus, there has been improvement in the development of State dam safety programs. However, at the same time that the Corps evaluated the State programs, they projected that about 33 States would soon have programs.

Q. 3. DOES FEMA RECEIVE REQUESTS FROM STATES, CITIES OR OTHER NON-FEDERAL DAM OWNERS FOR TECHNICAL OR OTHER KINDS OF ASSISTANCE RELATING TO DAM SAFETY? DO YOU COOPERATE WITH THE CORPS OF ENGINEERS IN RESPONDING TO ANY OF THESE?

A. 3. The agencies of the Interagency Committee on Dam Safety (ICODS - See Question 14 for details) respond to request for various assistance consistent with the agency's directives. Many of the requests are for technical assistance.

FEMA has received numerous requests for assistance in dam safety matters. Some deal with post failure assistance and are not considered by us to be "dam safety" issues. Others are requests for financial assistance and technical assistance. Clearly, we have little ot offer in the way of financial assistance (see Questions 15 and 16). We do work with requesting States to fund dam safety workshops.

With regard to technical assistance, we have a library of dam safety materials available for public use; this includes information from the Corps of Engineers and the other major dam safety agencies. We are preparing to disseminate information prepared by ICODS including technical and emergency action planning guidelines. Additionally, a simplified model to facilitate inundation mapping has been developed by NOAA (funded by FEMA) and will be published and disseminated by FEMA.

The Corps of Engineers is a major contributing member of ICODS and a well respected supporter of dam safety programs.

Q. 4. ARE THERE ANY WAYS IN WHICH THE ABSENCE OF ADEQUATE STATE DAM SAFETY PROGRAMS AFFECTS EXISTING FEDERAL PROGRAMS?

A. 4. The Bureau of Reclamation and the Corps of Engineers have expressed concern over the failure of local government officials to prepare or cooperate in the preparation of the evacuation plans and be responsible for evacuation on nonproject lands.

The lack of cooperation and willingness of local authorities to participate in evacuation planning is a weak link in the chain of emergency planning activities. The ICODS member agencies agree that dam owners are responsible for preparation of inundation maps and that notification plans should be coordinated with local officials. They further agree that the responsibility for developing and implementing evacuation plans belongs to officials of the local communities, not the owners or licensees of dams. To foster a clear and consistent position among Federal agencies, the ICODS has established a subcommittee to develop uniform guidelines for emergency action plans for the Federal agencies.

FEMA is spearheading the development of working arrangements with State and local public leaders responsible for disaster relief assistance to heighten their awareness of the problems attendant with a dam failure and to encourage their participation in planning emergency response actions.

Q.5. HOW MANY LIVES HAVE BEEN LOST ANNUALLY SINCE 1970 DUE TO NON-FEDERAL DAM FAILURES? WHAT IS THE FATALITY POTENTIAL OF UNSAFE DAMS NOW?

A. 5. In 1972, about 125 people died following the failure of the Buffalo Creek mine tailing dam failure. Another 200 died in the Rapid City, South Dakota, flood. Between 1972 and 1977, about 470 people died in dam failure related floods. In 1982, 3 people perished near Estes Park, Colorado, when the Lawn Lake Dam failed.

The potential for loss of life is very high. The deaths which occurred near Estes Park and below Teton Dam (non-Federal 11 deaths) were significantly reduced because of early warning. In both cases, observers were able to successfully alert the downstream public. Without such warning, the death rate would have been significantly higher.

Q. 6. HOW MUCH DAMAGE HAS BEEN CAUSED ANNUALLY SINCE 1970 IN THE U.S. BY DAM FAILURES? HOW MUCH OF THIS DAMAGE HAS BEEN PAID FOR BY THE FEDERAL GOVERNMENT?

A. 6. Data on dam failure costs have not been systematically collected and retained by any organization. However, some indication of the cost of failures can be provided although the estimate is very rough.

Estimates of the costs due to the failure of Teton have been estimated at about $400 million. However, this figure does not include all costs--loss of income, loss of taxes, lost services and other costs which would undoubtedly bring the total much higher. Between 1972 and 1977, the total costs due to dam failures may be about $2 billion.

Data on the Federal share is also sketchy since many branches of government are involved. However, in just what may be described as direct disaster assistance (e.g., sandbags, trailers), FEMA spent over $60 million on the major failure mentioned.

The lack of data on this issue hampers the definition of benefits. We anticipate initiation of a study in Fiscal Year 1984 to better estimate the total costs of dam failures.

Q. 7. WILL NEEDED REPAIRS OF AS YET UNREPAIRED AND UNSAFE NON-FEDERAL DAMS PROCEED AT A SATISFACTORY PACE WITHOUT FEDERAL ASSISTANCE OF SOME TYPE?

A. 7. Most States have made significant progress in correcting the 130 emergency unsafe dams identified in the National Program of Inspection of Non-Federal Dams (COE: PL 92-367). However, few States are making significant in roads into the problem of the 3000 unsafe (albeit non-emergency) dams.

Between 1900 and 1982, about 750 dams were completed each year. Without proper operation and maintenance, many of these dams will become unsafe. The result of the inspection program and our assessment of State dam safety programs does not provide much hope that proper State program will prevent this form of Federal assistance.

Q. 8. PLEASE PROVIDE DETAILED COMMENTS ON SPECIFIC PROVISION OF SENATOR MCCLURE'S S. 671.

A. 8. The Bill has the following principal provisions: (1) removes size restrictions on dams to be considered for inventory and inspection; (2) excludes from Corps of Engineers' inspection of all dams in States with approved dam safety program; (3) provides right of access; (4) limits liability of contractors; (5) provides for State safety programs; (6) provides funds to supplement the State programs (including loans for rehabilitation): (7) creates a program for liability reinsurance; (8) creates a Federal Dam Safety Review Board; (9) provides training for State inspectors; (10) provides support for research; (11) maintains the inventory of dams; and (12) requires identification of the possibility, and potential impact, of dam failure.

Provision 1: We concur with the Corps of Enigneers' previous testimony.

Provisions 2, 3, and 4: These issues may have had merit in the past but are now moot. There is no current Federal inspection program for which they apply. Further, we concur with the Corps of Engineers that no new program of Federal inspection of non-Federal dams should be undertaken.

Provisions 5 and 6: Our position is that States and dam owners are responsible for the safety of non-Federal dams.

Provision 7: Our comments on reinsurance are presented in A. 9.

Provision 8: We concur with the Corps of Engineers in objecting to this provision. The Federal Guidelines for Dam Safety requires the proposed designs for Federally sponsored dams be independently reviewed by qualified personnel outside of the design group. The Interagency Committee on Dam Safety and, independently, FEMA monitor and report on Federal agency compliance with the Guidelines. The first report on this topic, "Early Progress to Implement the Federal Guidelines for Dam Safety and Recommendations to Improve Federal Dam Safety Programs," was issued in July 1980. The next report is scheduled for July 1983. These reports on the adequacy and implementation of the Guidelines are available to Congress. We believe that this function of the proposed Federal Dam Safety Board is currently being discarded by ICODS and FEMA. The addition of the board would create confusion as to show who is responsible for Federal and non-Federal dam safety programs.

Provision 9: The Interagency Committee on Dam Safety has a subcommittee preparing an inventory catalogue of dam safety training. Additionally, a curriculum is being prepared on inspection techniques. These materials will of course be available to non-Federal owners and State and local officials.

Provision 10: Research in areas of dam inspection and safety monitoring is now being carried out in a number of Federal agencies. Of course, more research is desirable. While no amount of instrumentation will render a dam safe, early warning of distress or failure may allow emergency evacuation plans to be implemented with the resultant saving of life and property. However, in a recent national dam safety research workshop sponsored by ICODS, priorities for activities other than instrumentation emerged. The majority of unsafe dams have inadequate spillway capacity. The attendees concluded that methods should be devised to increase the capacity of existing spillways and to permit non-damaging overtopping of existing embankments. FEMA's role, to coordinate national dam safety, would allow the identification of consolidated research to meet the needs of the Federal and non-Federal communities. Finally, while the National Bureau of Standards is an excellent source for monitoring techniques, it is more appropriate to leave the research program management the flexibility to use a variety of sources.

Provision 11: As noted in our testimony of June 27, 1983, we support the Corps of Engineers efforts to reinstate the inventory program. The national inventory provides a valuable resource to the Federal and non-Federal planner. However, if the program is not maintained, the inventory will quickly be outdated. As an example, over 1,000 dams a year were completed between 1955 to 1975. While this rate may decline, it is clear that the inventory must be maintained if the program is to be kept current. We strongly support the extension of the Corps of Engineers' inventory program.

Provision 12: We believe that dams designed, constructed and operated consistent with the "Federal Guidelines for Dam Safety," are safe. However, the failure of Teton Dam and the nuclear accident at Three Mile Island are clear warnings that "absolute safety" does not exist. Thus, we believe that some form of risk assessment of a dam's potential failure is necessary. However, there is little reliable data on dam failures and therefore, no meaningful statistics, or quantification of the risk of failure, can be developed. This argues for assessing qualitatively the "what if" failure scenarios. Some States, California for example, require delineation of downstream inundation areas from the postulated failure of dams. We believe that such analyses, based on postulated failure is a vital component of a dam safety analysis and will not raise unfounded concern over the safety of a well designed, constructed and maintained structure. The information will, however, provide the planner and decisionmaker with an indication of the relative risks associated with the structure and the site.

Q. 9. A) IS THE REINSURANCE PROGRAM PROPOSED BY S. 671 SIMILAR TO PROGRAMS CONDUCTED BY FEMA WITH RESPECT TO FLOOD INSURANCE? B) IS THERE ANY WAY TO ESTIMATE THE COST OF SUCH A PROGRAM? C) IS SUCH A PROGRAM NEEDED BY OWNERS OF NON-FEDERAL DAMS? D) WOULD A STUDY OF THE NEED BE PRUDENT AT THIS TIME?

A. 9a. Although there might seem to be some superficial similarity between the "reinsurance" program, as proposed, and the National Flood Insurance Program (NFIP), the two programs differ in several fundamental ways.

First, the proposed program is refered to as "reinsurance" or guarantee program, while under the NFIP, the Federal Government is the primary insurer offering first-dollar insurance coverage.

Second, the proposed program, as put forth, in S. 671, would offer liability protection for the dam owner against those who recover for damage resulting from flooding caused by an improperly designed, constructed, operated, or maintained dam. The NFIP, on the other hand, offers property protection for owners of property who may experience a loss from flooding, as defined by the National Flood Insurance Act of 1968, as amended.

Moreover, if enacted, this bill could work at cross purposes with the NFIP. Presently, should FEMA pay out flood insurance claims resulting from the failure of a dam that was improperly designed, constructed, operated, or maintained, the Agency might well seek to recover the monies paid out from the responsible party(ies). In this way, safer dams are encouraged and FEMA's flood insurance liability is limited. This proposed dam owner liability protection program could have the opposite effect. Not only would the Federal Government pay its insurers for flood losses resulting from a dam failure, but it would also be liable for damages to uninsured property owners, and also for losses not covered under the Standard Flood Insurance Policy, including personal injury and loss of life.

A further distinction here is that the property owners covered by flood insurance often cannot control the cause of a potential loss, whereas the dam owner can protect against liability by ensuring that the dam is designed, constructed, maintained, and operated according to applicable legal requirements. Therefore, the aspect of fault becomes an issue in the proposed program, which only pays when the dam owner is found to be at fault, while it is not a factor in the NFIP.

Third, under the NFIP, the rates are subsidized with limited coverage provided for existing structures; actuarial rates are applied and higher, but limited, coverage provides for new and substantially improved elevation and the protective measures taken by the property owner, primarily elevating to that level. Elevations are provided by a flood insurance study for each flood-prone area. As currently proposed, the S. 671 liability protection program for dam owners would offer a specific, limited guarantee that is not based on the size, capacity, control mechanisms, structural materials and design, exposure downstream, etc. In short, it is not insurance, but a guarantee of recompense to the dam owner found to be at fault.

b. In order to estimate the potential cost of such a program as proposed, the potential liability that could be incurred would have to be determined based on the specific potential liability at each dam site and the "premiums" could be expected from the potential insureds would have to be estimated. Some factors that would need to be considered downstream that could be affected; the distance downstream the flood might extend; the size of the dam storage capacity and the greatest possible flood (100-year, 500-year, etc.); speed and pressure of flood waters should the dam fail; the urban stormwater capacity downstream; and the flood hazard mitigation measures in effect downstream. In addition, factors such as limits or ceilings on the liability guarantee, conditions of the guarantee regarding probable cause and fault, type of liability (property, life, mental anguish, etc.) and the inability to spread the risk (adverse selection), mandate purchase, or require State dam safety enforcement should be considered. It would appear that such a program would have to be subsidized by the Federal Government in addition to its existing assistance to flood victims through the NFIP, disaster assistance, and other financial assistance through the NFIP, disaster assistance, and other financial assistance through the IRS, SBA, etc. The extent of the subsidy would be contingent on the terms and conditions of the guarantee and the amount paid by the first-dollar insurer.

The question of need by non-Federal dam owners raises the issue of whether the potential liability is compensated for through other means and whether coverage is provided by the private sector. Financial assistance (including flood insurance for property owners) is available to the States, communities, and dam owners through FEMA and other agencies both before and after a disaster. However, since not all damage is covered under the NFIP or disaster assistance, some uncompensated damage, and therefore, liability could result for the dam owner were the dam to fail and fault be found. Also, dam owners could be liable for loss and life, mental and physchological damage, loss of business, and other losses not covered by the property protection mechanisms and coverage offered by the Federal Government to potential flood victims.

Limited coverage for liability is available to dam owners by the private sector. How much coverage may be currently available, how much might be needed, and at what rates could be offered by the proposed program cannot be determined without a full study of the market, program costs, etc.

However, this also raises a second issue regarding the need for such a program. Were a Federal liability protection mechanism established for dam owners, such a program would conflict with the NFIP, with the Federal Government paying to compensate the victims and the person at fault. The Federal Government would be paying, rather than seeking recompense from the person or organization at fault through subrogation.

d. Were a program such as that currently proposed under S. 671 to be pursued despite the consideration discussed in answer to the preceding parts of this group of questions, a detailed study of all these issues and considerations would have to be undertaken. However, as the agency responsible for administering the NFIP, providing disaster assistance, and coordinating Federal mitigation and emergency management efforts, we reiterated concerns regarding the conflict between S. 671 and the NFIP explained above.

Q. 10. BY TAKING ADVANTAGE OF CERTAIN NON-STRUCTURAL ALTERNATIVES SUCH AS WARNING SYSTEMS OR EVACUATION PLANS, WOULD IT BE POSSIBLE TO SAFELY FOREGO EXPENSIVE STRUCTURAL REPAIRS OR ALTERATIONS TO DAMS WHICH HAVE INADEQUATE SPILLWAYS?

A. 10. We do not recommend that current criteria for spillway design be down graded soley on the basis financial pressure. However, the development of warning systems and evacuation plans may provide an acceptable interim measure in some cases and could reduce the loss of life due to the failures of a dam in almost all cases. The degree to which emergency action planning can be substituted for structural repairs in an existing dam can only be determined on a case-by-case basis by those responsible for the health and safety of the public: in this instance, the State. Factors certain to be of importance include the surety of warning, the lead time for evacuation, the population at risk, positive control of downstream development, and the potential property loss. Certainly, in situations of extreme financial hardship and conflicting need (e.g., a community threatened by its own water-supply reservoir) emergency actions plans may be the only available interim solution.

Because of the need for consistent approaches to developing emergency action plans, especially in linking the warning phase with a local evacuation plan, the

Interagency Committee on Dam Safety is developing guidelines for such plans. The guidelines, while principally written for the Federal agencies involved, have been coordinated during development with State and local officials. We expect to make the guidelines (expected by the end of CY 1983) widely available.

Q. 11: IT HAS BEEN SUGGESTED THAT RISK ASSESSMENT PROCEDURES BE USED IN CONJUNCTION WITH COST DATA TO MAKE PRIORITY DECISIONS REGARDING REPAIR OF UNSAFE DAMS. IS THIS PROCEDURE SUFFICIENTLY ADVANCED TO BE USED TO SET PRIORITIES FOR DAM REPAIR? PLEASE PROVIDE THE SUBCOMMITTEE WITH SOME INFORMATION ON THIS POSSIBLE USE OF RISK ASSESSMENT.

A. 11: Our experience suggests that most discussions of risk assessment starts with confusion and never improves because of the multiple uses of the terms "risk" and "risk assessment." Risk is the likelihood of adverse consequences. Risk assessment, as appllied to dam safety, is the process of identifying the likelihood and consequences of dam failure to provide the basis of informed decisions.

We believe there is no question that risk analysis can be applied effectively and efficiently for three general purposes:

. To develop a procedure for ranking dams to determine the need for detailed risk analysis based on their relative safety.-------existing dams

. To develop a probabilistic model to assess the risk to society of a dam and its associated facilities. -------existing and new dams

- To evaluate the effectiveness (in terms of reducing risk) of remedial measures through cost-benefit analysis-------existing dams or new dams.

The procedures for ranking dams are available now: more detailed methodology will be available very soon (see Q. 13). However, a significant hurdle still remains, that of inducing a broad cross section of the technical community to adopt and apply risk analysis. The workshops mentioned in Question 13 should help.

Q. 12: PLEASE DETAIL WHICH FEDERAL AGENCIES ARE DEVELOPING, AND UNDER WHAT CIRCUMSTANCES THEY ARE APPLYING RISK ANALYSIS TO DAM SAFETY ACTIVITIES.

A. 12: The "Federal Guidelines for Dam Safety" recommended that:

> "The agencies should individually and cooperatively support research and development of risk-based analysis and methodologies as related to the safety of dams. This research should be directed especially to the fields of hydrology, earthquake hazard, and potential for dam failure. Existing agency work in these fields should be continued and expanded more specifically into developing risk concepts useful in evaluating safety issues. Existing work is exemplified by (1) the interagency research conference cited in paragraph c. below, (2) its adjunct meetings on hydraulics and earthquakes, and (3) the NRC methods of risk evaluation for nuclear plants as applicable to radiological safety-related dams."

In subsequent evaluation of progress in implementing the Guidelines, representatives of the ICODS membership stated:

> "It is apparent from the agency responses that they are experiencing difficulty in developing enthusiasm for what they perceived as mandated use of risk based procedures. The agencies with planning, design, construction and operations responsibility generally believe that risks are presently being considered as they relate to the specific site features or items that create risks and that evaluation of these risks does not lend itself to a statistical approach. Some regulatory agencies support the concept of risk analysis."

Much of the problems arise from misconceptions described in response to Question 11. The same evaluation cited above equate "risk based analysis" and "probabilistic analysis:" a non-equality. It is not surprising, given the level of resistance to use and misunderstanding, that one agency concluded it would "implement a policy on use of risk based analysis when it becomes a proven process."

We hope that through our efforts with Stanford University (Question 13) more agencies will recognize the value of risk analysis in a dam safety decision process. Two agencies already have procedures for risk analysis developed; the Corps of Engineers and the Bureau of Reclamation.

The Corps of Engineers' method (Hagen, V.K.; 1982; "Re-Evaluation of Design Floods and Dam Safety" Transaction of 14th International Congress on Large Dams. Vol 1, Rio de Janeiro, Brazil.) is similar to that developed by the Bureau of Reclamation in that it considers the same factors as does a quantitative risk analysis. However, they are in terms of a set of ranking parameters that take integer values between 1 and 5. A score of 1 is most favorable, a score of 5 least favorable. According to Hagen's method, the overall "relative risk" index for a dam equals the sum of an "overtopping failure score" and a "structural failure score," i.e.,

$$R = O + S,$$

where O = overtopping failure score = $O \times O \times O$ and S = structural failure score = $S \times S \times S$. The factors depend on the following considerations:

Factor O : Number of homes endangered by failure. (Based on difference in area inundated without failure and with failure, assuming water surface at the top of dam. Dam failure hydrograph superimposed on discharge prevailing at the time of failure.)

Factor O : Project flood capability in the percentage of current design flood standard. (Assuming the probable maximum flood PMF is the current design flood standard.)

Factor O : Project capability to resist failure by overtopping. (Based on inspection of the structure and review of design and construction records.)

Factor S : Number of homes endangered by failure. (Area inundated is obtained from dam failure with water level at the top of flood control storage or normal maximum pool excluding surcharge used to pass design flood.)

Factor S : Evidence of structural distress. (Based on inspection of the structure and review of design and construction records.)

Factor S : Potential seismic activity. (Based on dam location on seismic zone map, knowledge of faults, recent earthquake epicenters, and dam design procedures.)

The maximum rating zone for a dam by the selected rating scales would be 250 (i.e., 125 associated with "overtopping failure" and 125 with "structural failure").

A dam with smaller score than some other dam should generally pose less of a risk.

The U.S. Bureau of Reclamation has developed a program to evaluate the safety of existing dams. The evaluation process includes a review of available data on a dam and a field inspection. The data review covers all aspects of the dam from geologic and seismic conditions to a review of the construction experience and operations. A detailed evaluation report is prepared on each dam, and a site rating (SR), a numerical measure of the dam's condition and damage potential, is assigned. A score is given on a scale of 0 to 9 to various elements. The SR is a sum the element scores.

During a field investigation, a checklist of items is examined. For this purpose, the Bureau has prepared handbook to assist the examiner in identifying areas of potential distress in the dam (SEED 1980). On the basis of the site investigation, recommendations for upgrading are made, and their significance is measured by a weighting system that considers a category's overall importance as well as its degree within each category. The sum of the weights for all recommendations is added to the SR to give a SEED value. The results for all dams are used to develop a SEED rank, where the highest SEED value has a rank of 1.

Other features of the SEED program include information on estimates of costs to carry out the recommended upgrades, scheduling information, status of different upgrades, and key personnel involved in the project. In addition, the information is stored on a computer and is continually updated.

Q. 13: PLEASE DESCRIBE IN MORE DETAIL THAN THAT PROVIDED IN YOUR TESTIMONY, THE FIRST AND SECOND PHASES OF STANFORD UNIVERSITY'S WORK ON TAILORING PROBABLISTIC RISK ANALYSIS TO DAM SAFETY.

A. 13: We executed a contract with Stanford University to develop risk based methodology for application to dam safety. To ensure adequate oversight, a research advisory committee was formed to monitor progress and the direction of the project. The committee comprised representatives from Federal agencies, private industry, State government, and academia. Immediately, procedural problems emerged.

Quantitative risk analysis is expensive. Therefore, some technique was needed to prioritize the dams for further study or, at the extreme, remedial work. The number of dams needing attention (3000, and growing) mandated that the technique be easily used and not require vast amounts of data. Thus, the first step was to develop a "Screening Process" which required little more information than the Phase I Inspection Report.

Many of the earlier works on probabilistic risk analysis (p.r.a.) are very complex in appearance and unfortunately seem to promise more in the way of decision criteria than is delivered. Therefore, there is a deep seated distrust of p.r.a. in the technical community, including Federal agencies. The presentation of the methodologies developed had to be carefully crafted to minimize complexity.

Finally, the entire presentation would need to stress the desirability of using risk analysis: it had to sell itself.

The project is divided into two phases. Phase I develops the "Screening Process." It presents a general risk analysis procedure for ranking existing dams in a jurisdiction. The objective is to provide a relative ranking based on the concept that resources should be allocated on a priority basis to dams with low levels of safety and whose further study and upgrade would provide the highest return for resources spent.

Phase I of the effort is complete. The reports supporting the efforts are still preliminary. They are:

> "Risk Analysis - It May Not Be Hazardous to Your Judgement;" Shah, H.C., and Mr. Cann Jr., M.W.; Presented as a lecture at the Dam Safety Research Coordination Conference, October 1982, Denver, Colorado.
>
> "Application of Risk Analysis to the Assessment of Dam Safety;" McCann Jr., M.W. et al. December 1982. [Preliminary]

"Preliminary Safety Evaluation of Existing Dams, Vol. I;" McCann Jr., M.W.; et al. Stanford University, May 1983 [Preliminary]

"Preliminary Safety Evaluation of Existing Dams, Vol. II - Users Manual;" McCann Jr., J.W., et al.; Stanford University, May 1983. [Preliminary]

Phase II of the program involves the further development of the risk analysis methodology, resulting in a technique to quantitatively estimate risk associated with a given dam. The principal difference is that the screening technique defines the relative difference in risk between a suite of dams while the qualitative technique will define the risk of a specific dam. Thus, various analyses can be made to determine how to optimize risk reduction for the specific dam. Additionally, the risk to the public from the dam can be compared to the risk of other hazards (e.g., decaying highways, bridges, water and sewer systems and toxic waste repositories). These latter comparisons will ultimately allow the local, State and Federal decisionmakers to select alternatives which maximize the return on resource investments.

The techniques of risk assessment are still developing. We are expanding our efforts to expedite the maturation of the tool. With Stanford University, we are initiating a series of workshops to both teach the use of risk analysis and to learn how the methods can be strengthened. We hope this will hasten the ultimate acceptance and use of risk analysis in decisionmaking for dam safety and for other risk reducing efforts.

Q. 14: PLEASE PROVIDE THE SUBCOMMITTEE WITH THE FOLLOWING INFORMATION ABOUT ICODS: A. ITS HISTORY AND FUNCTION, B. ITS MEMBERSHIP, C. RECENT ACCOMPLISHMENTS AND ACTIVITIES, D. THE FREQUENCY WITH WHICH IT CONVENES, AND E. WHETHER OR NOT MEMBER AGENCIES ATTEND FREQUENTLY AND INCORPORATE ICODS' WORK INTO THEIR OWN PROGRAMS.

A. 14: A principal coordination mechanism among Federal agencies is the Interagency Committee on Dam Safety (ICODS) which FEMA chairs.

The members of the ICODS include the major dam design, construction, financing and regulating department and agencies:

Department of Agriculture

Farmers Home Administration
Forest Service
Rural Electrification Administration
Agricultural Research Service
Soil Conservation Service*

Department of the Army

Corps of Engineers*

Department of Interior

Bureau of Reclamation*

Bureau of Indian Affairs

Bureau of Land Management

Fish and Wildlife Service

National Park Service

Office of Surface Mining

Department of Labor

Mine Safety and Health Administration*

Federal Energy Regulatory Commission

Tennesee Valley Authority

International Boundary and Water Commission (US Section)

Nuclear Regulatory Commission

Federal Emergency Management Agency

*Departmental representative to ICODS.

The genesis of ICODS was an ad hoc committee of agencies involved in dam safety which first met following the failure of the newly constructed Teton Dam in 1976 (Idaho; $1 billion in direct costs, and 11 lives lost). The purpose of the committee was to explore the potential for developing consensus technical guidelines for dam safety. Before significant progress had occurred, the Toccoa Falls Dam failure in 1977 (Georgia; 35 lives lost) induced President Carter to both accelerate the Corps of Engineers' inspection program and to direct the agencies to embark on a three-point program to strengthen the dam safety efforts in the nation. First, each agency was directed to review their dam safety programs. Second, the Chairman of the Federal Coordinating Council for Science, Engineering and Technology (FCCSET) was to convene and _ad hoc_ interagency committee (i.e., ICODS) to review the individual agency practices and recommend improvements for Federal management guidelines. Third, an independent review panel was to evaluate the guidelines. The _"Federal Guidelines for Dam Safety"_ was completed in June 1979, and the agencies were directed by the President to adopt them in October of that year. FEMA was directed to monitor the implementation of the Guidelines by the Federal agencies. A report on the initial progress, _"Early Progress to Implement the Federal Guidelines for Dam Safety and Recommendations to Improve Federal Dam Safety Programs"_ was published in July 1980 by FEMA. Subsequently, ICODS has continued at FEMA's request the charter for ICODS is the last part of this response. The ICODS has established programs to develop consistent technical procedures for use by member agencies to compliment the management procedures developed in the Guidelines. Subcommittees of ICODS, are progressing in the areas of consensus technical guidelines, training, emergency action planning, interagency coordination and communication, and research.

The ICODS Charter calls for a minimum of one meeting per year. Currently, the meetings are held quarterly. The ICODS representatives or alternates attend every meeting.

Another important ICODS activity is self-evaluation of progress in implementing the "Federal Guidelines for Dam Safety" and in strengthening individual agency programs. The current evaluation is not complete; it is expected in July 1983.

Charter and Operating Rules

I. PREAMBLE

The need for positive action and leadership to assure safe dams has been clearly established by the directions provided by the President, by the actions taken by Federal engineers involved with dams, and by the concerns expressed by the public.

It is necessary that Federal agencies that have an involvement with dams coordinate their activities to assure optimum use of agency resources in the establishment of principles and guidance that will lead to safer dams. These agencies also have a responsibility to provide leadership and training to others so that they might benefit from the skills and experience of the Federal agencies. ICODS is to provide the framework that will lead to meeting these objectives. The members will individually carry ICODS decisions and recommendations that impact on policy and legislative matters to their agencies for appropriate action.

ICODS will consider a dam to be as defined in the Federal Guidelines for Dam Safety.

II. PURPOSE

The purpose of ICODS is to encourage the etablishment and maintenance of effective Federal and State programs intended to assure dam safety for protecting human life and property. The Committee's purpose is achieved through coordination and information exchange among agencies sharing common problems and having responsibilities for any aspect of dam safety (i.e., planning, providing technical or financial assistance, regulation of licensing, providing technical or financial assistance, research, data collection, and ultimate disposition). It is understood tht ICODS will provide a permanent forum for these organizations to advise the Federal Emergency Management Agency (FEMA) in its role to coordinate interagency activities and to identify, discuss, and recommend solutions to institutional, managerial, technical, legislative, and policy issues which affect national dam safety.

III. ORGANIZATION

A. Membership

The members are to be the designated dam safety representatives of their alternate, for the Federal Departments/agencies responsible for managing safety of dam programs and FEMA. Other agencies may participate in ICODS meetings and subcommittee activities.

B. Chairperson

The Chief, Federal Safety, FEMA, will serve as Chairperson. In his absence, the representative of a Department/agency will be named by FEMA to be Acting Chairperson.

C. Subcommittees

ICODS will establish necessary subcommittees. A member of ICODS will be named by the Chairperson as contact person for each subcommittee. Subcommittee, their memberships, chairmanships, and assignments will be approved by ICODS.

D. Meetings

The Chairperon will call meetings as needed. A mimimum of one meeting per year will be scheduled.

E. Voting and Rules

Voting in ICODS will be limited to representatives of the following Departments/agencies: Agriculture; Army; Federal Energy Regulatory Commission; Interior;

Labor; Tennessee Valley Authority; U.S. Section, International Boundary and Water Commission; Nuclear Regulatory Commission; and FEMA, with one vote per agency. All subcommittee members shall have a vote on their committee. Every effort will be made to arrive at a consensus. Robert's Rules of Order will be followed.

F. Funding

Each agency will be responsible for supporting its representatives. Any cost for consultants, printing, etc., will be mutually agreed upon prior to commitment.

IV. Amending Charter and Operating Rules

Amendments may be made to the Charter and Operating Rules, the members desiring, by a two-thirds vote of the membership.

(Adopted by interagency committee on dam safety at April 24, 1980 organizational meeting, Washington, D.C.)

Q. 15 PLEASE DESCRIBE HOW THOSE STATES MENTIONED IN YOUR TESTIMONY WERE CHOSEN TO RECEIVE SEED MONEY FROM FEMA FOR DAM SAFETY ACTIVITIES. DID FEMA HAVE MINIMUM REQUIREMENTS FOR COST SHARING? WERE ONLY THOSE STATES WITH ADEQUATE DAM SAFETY PROGRAMS ELIGIBLE FOR FUNDING?

A. 15 Guidelines were developed to assist States in the preparation of applications for financial assistance. The goals of the program, listed in our initial testimony, as well as acceptable and unacceptable tasks were identified. Evaluation criteria and ranking values were identified and included in the notification packages.

The limited amount of money available for award and, in fact, the intent of the program made small awards necessary. Thus, States were encouraged to divide proposals into separable tasks to increase the potential for award. About 22 States submitted proposals for 48 tasks at a potential cost of more than $1.7 million.

The proposals were evaluated by a panel of 5 FEMA Regional Staff members and 2 FEMA Headquarters personnel. Awards were made for 8 tasks in 7 States for a total of about $223,000, the maximum available funds.

There were no criteria established for a minimum cost sharing. However, the evaluation criteria and associate ranking values gave additional credit to those States which provided cost sharing. To this degree, cost sharing was reflected in the final selection process. All States, the District of Columbia, and U.S. territories and possessions were eligible for funds.

Q. 16 HOW MUCH MONEY DOES FEMA BUDGET ANNUALLY FOR DAM SAFETY ACTIVITIES AND PERSONNEL?

A. 16 FY 1982 - $150,000

FY 1983 - $482,000

FY 1984 - $482,000 (Proposed)

Senator ABDNOR. Our next witness is R. Timothy Weston, associate deputy secretary, Resources Management, Pennsylvania Department of Environmental Resources.

We appreciate your presence, Mr. Weston and if you would introduce your colleague, Joan Kovalic.

We are happy to have you too. If you can summarize, your statement will be submitted in full for the record. We are anxious to have your input into this problem, I can assure you.

STATEMENT OF R. TIMOTHY WESTON, ASSOCIATE DEPUTY SECRETARY, RESOURCES MANAGEMENT, PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES AND MEMBER, BOARD OF DIRECTORS, INTERSTATE CONFERENCE ON WATER PROBLEMS, ACCOMPANIED BY JOAN M. KOVALIC, EXECTUTIVE DIRECTOR AND GENERAL COUNSEL, INTERSTATE CONFERENCE ON WATER PROBLEMS

Mr. WESTON. Thank you, Mr. Chairman; Senator Bentsen.

I am Tim Weston, member of the Interstate Conference on Water Problems' Board of Directors and with me is Joan Kovalic, executive director and general counsel of ICWP.

As the chairman noted, I serve as associate deputy secretary for resource management in Pennsylvania's Department of Environmental Resources and in that capacity, I oversee the State's water resources, dam safety, and other engineering programs.

I also serve as chairman of the Susquehanna and Delaware River Basin Commissions.

As this committee is well aware, the Interstate Conference on Water Problems is the national association of State, interstate, and intrastate water management officials. Among the issues that this committee has faced in the last year, many of them are covered in our statement for the record, including the important issue of cost-sharing. I would like to cover today the issue of dam safety in particular.

The State water officials actively support the initiation and continued maintenance of a cooperative Federal-State program for inspection of public and private dams coupled with regulatory programs to assure the correction of unsafe conditions and the proper design, construction, and maintenance of dam facilities.

History has confirmed a very unfortunate pattern. Dam safety receives scant attention on the public agenda until a disaster strikes. The litany of dam safety disasters at Buffalo Creek, Teton Dam, Toccoa Falls Dam, and in my own State the 1977 Johnstown disaster, are only examples of this attention by disaster phenomenon.

The ironic fact is that the better we do our job of regulation and inspection, the more this problem drops from public sight. It is our responsibility as public leaders to remember what inattention can render and to establish programs on a firm foundation for the long-term public good.

We do not need a cooperative State-Federal dam safety program just to demonstrate our ability to respond to public tragedies.

What we do need is a dam safety program designed to anticipate and to minimize the chances of such losses occurring.

Dam safety inspection work is not something that can be done once and forgotten. As the bill S. 671 recognizes, inspections must be conducted on a periodic and continual basis. The entire dam safety program must be continual.

In the past 6 years, we have gained very valuable experience as a result of the national dam safety inspection program. Under the guidance of the corps, some 8,818 nonFederal dams were inspected. We gained a good idea of the magnitude and level of problems we face.

One-third of America's high hazard dams, almost 3,000 dams, were found to have serious safety defects, many of them inadequate spillways, but in large number stability and foundation problems as well.

The hard task for us now remains. How do we correct these problems in an efficient and cost-effective fashion?

We believe that the concepts contained in S. 671 do form a viable basis for a long-term program.

Let me make a few comments on specific elements of the bill. Following the dam safety inspection program, the States have made enormous strides in improving their dam safety regulatory programs. New laws have been passed in many States. Increased resources have been assigned to the tasks of monitoring dams and enforcing compliance safety standards.

A good example of the success of that program was seen this week in Utah where Utah's program was to forecast the problem at DMAD, the dam that eventually failed, and move the people out in time and save lives. That is a real benefit of the program that we have already undertaken.

We still face an incredible task, though. In my State alone, we found 208 dams with unsafe conditions. Our professional staff has concentrated on 65 of the most critical facilities but that leaves us 140 dams still to be addressed. It only takes a couple of days to do an inspection. It takes months to go through the legal process and financing process to get the problem corrected.

With all due respect to some of my Federal colleagues, I have to take issue with the comments I heard this morning. Perhaps dam safety inspections are the States' problem. But when a dam fails, it is a Federal disaster. We all have a stake in solving the problem.

The States support those elements of S. 671 which would provide some assistance to the States in establishing and maintaining their dam safety programs. Many of the States do not now have adequate dam safety programs because of a lack of resources.

State legislatures have been burdened by many different assignments. We have to stretch our dollars just as far as we can. The problem as I noted before, is that until the dam fails it generally does not rise to the top of the budgetary agenda.

We would caution against establishing by statute some specific inspection frequency for all dams as is now contained in S. 671. Inspection frequency should be determined by and commensurate with the condition, size, type, location, and downstream hazard potential associated with each dam.

In some cases, a 5-year or more inspection period is quite reasonable and in others, much more frequent inspections are necessary.

We would suggest that in section 8(a)(3) of the bill there be a revision to mandate a procedure for inspection of a dam within a State in accordance with a schedule and system of priorities contained in the approved State program.

One of the most difficult obstacles to correcting unsafe conditions at non-Federal dams is financing the work. As we pursue the inspection program, we find a large number of the dams which require rehabilitation, restoration or replacement are those owned and operated by small communities and small water systems.

The tax base and the rate base of these entities bodes very ill to their ability to raise the capital necessary to quickly make the emergency remedial products. We do support the concept of section 10 authorizing the creation of a $20 million revolving fund to loan money to these dam owners to get the work done, but in view of the experiences to date in the national program, we believe you will find this level of funding will prove inadequate.

In my own State alone, the estimated cost of repairing and restoring identified unsafe dams is over $300 million. Congress may wish to consider an alternative delivery mechanism. A number of the States, including my own, have established restoration loan funds and infrastructure dams. Perhaps piggy-backing the Federal loan assistance with such State loan assistance would reduce duplicate paperwork and aid in more effective targeting of the limited available funds.

We also support the creation and maintenance of an extensive training program as provided in section 13 of the bill. We recommend a relatively minor but important change in the wording, however, to read "Dam safety personnel" rather than "Dam safety inspectors."

All of our engineering geological technical staff need training, not just those out doing inspections. It is the whole program that will make a difference.

Finally, we concur entirely in the research program authorized in section 14. Improvement in the state-of-the-art dam safety inspection techniques and development of better inspection and modern equipment are logical supports for a national program.

In summary, the States represented by ICWP stand ready to join in a renewed State-Federal partnership for dam safety. Assuring the safety of America's private and public dams is a priority requiring continuing cooperative effort.

The States take pride in the steps already taken under the national inspection program to bring attention to the challenges we confront. Now is the time for all of us to establish a firm foundation for national dam safety in fulfillment of our multiple common public trust.

Senator ABDNOR. Thank you, Mr. Weston.

We appreciate your input and your observations. The Colorado does have a good system out there, I take it.

Would you say Utah—I don't want you to pass judgment here and get you in trouble with your State colleagues, but are they stronger with their program; Colorado, obviously, than Utah?

Mr. WESTON. I hate to compare State versus State. But let me state that knowing Dee Hansen and his program, Utah probably has one of the model programs for a State program.

The problem that you find as a State dam safety or water manager is that the best program is not going to prevent a failure.

Many of our dams are old; many of them are earthen dams; they sit in disadvantageous positions in the watershed. When you have the kind of hydrologic and meteorologic conditions that are faced in Utah, you are going to have potential failure, especially on an earthen dam.

The fact that Utah identified the problem and moved out quickly to save lives and people showed they had the program together. They knew what had to be done and they saw it well in advance of the time that the failure occurred.

Senator **Abdnor**. Thank you. The block grant criteria would change. I guess now we cannot allow States to use the funds for dam safety. If it would change so you could, would this work better than a new loan program, do you think?

Mr. **Weston**. I am somewhat of a split mind on the subject of block grants versus loans. Very frankly, the position in our State has been that in the financing of dam safety corrections, it probably ought to be a loan fund. The owners who are receiving the benefits from the dam ultimately should pay the cost.

Block grants have a tendency of becoming sort of an endless program once they get started. A loan reminds the owners that they have a responsibility to undertake the action and undertake it in a cost-effective fashion.

I did suggest that the management of the loan program could perhaps be handled better than as suggested in the bill. Loan programs now operated out of the Federal Government come from an agency to the dam owner or from an agency to the water owner. In piggybacking a Federal loan program with State loan programs, you have one application, one identification of priorities, and you can make the best use of the money. That makes a little bit more sense. There are several vehicles for doing that.

Senator **Abdnor**. In your presentation, you mentioned 65 of the 208 unsafe high-hazard dams in Pennsylvania presently are the focus of corrective action.

How did the State choose the 65 and what factors did you take into consideration in your ranking?

Mr. **Weston**. We looked primarily at two or three factors.

First of all the size of the dam and the location were the two primary factors. In size, I don't mean the height, I mean the volume of water. Many of the dams we were looking at were very obviously high priority. They had unsafe foundations or very seriously inadequate spillways and were sitting above towns.

Those were the ones that immediately rose to the top of our list. I cannot say it was a sophisticated risk analysis. You know the factors when you see them. We selected the 65 dams, having taken all of the reports that we had from the Army Corps of Engineers inspection program and literally sitting around the table in 1 day, figuring out which ones we had to go after first. The process going after them was an enormous task.

We have been in court. We have issued administrative orders. We have pursued owners across the country. In a couple of cases, we declared defaults and went in and corrected the problems ourselves at considerable State expense.

Senator **Abdnor**. We thank you, Mr. Weston.

Your entire statement and the backup material will be made a part of the record.

We are extremely pleased that you both could join us today and give us the benefit of your background and information.

Thank you, very much.

Our next witness is Tony Willardson, associate director, Western States Water Council, from Salt Lake City, Utah.

We are happy to have you, Mr. Willardson. Let me assure you that your lengthy statement will be made a part of the record. If you would summarize, it will give us an opportunity to ask a few questions.

STATEMENT OF TONY WILLARDSON, ASSOCIATE DIRECTOR, WESTERN STATES WATER COUNCIL, SALT LAKE CITY, UTAH

Mr. **Willardson**. Thank you, Mr. Chairman.

The Western States Water Council, as you may be aware, represents the 12 Western States and the members are appointed by the Governors and serve at their pleasure.

Senator **Abdnor**. North Dakota?

Mr. **Willardson**. South Dakota and North Dakota and also Alaska are now associate members of the council.

Senator **Abdnor**. I think one meeting is coming up in North Dakota soon. I am going out there.

Mr. **Willardson**. The Dakotas have attended many of our meetings for some time. As you know, the council member States of the Dakotas lie in a very arid region over the country and for many years dams and reservoirs have been an important aspect of Western Resources Management for controlling and capturing the second allied flows and for labor use by the cities and towns.

Dams can be a mixed blessing when it comes to dam safety and the risk of dam failures. All of the council member States do have ongoing water dam safety programs. We have in the past commented on Federal legislation in the area of dam safety.

With respect to S. 671, the council supports many of the provisions of the bill. We have suggested some amendments. As stated earlier by the corps with respect to the size of the dams, it would delete the limitation under the present law. We do believe that this limitation is both necessary and desirable and that that should not be changed.

As to the right of entry, we feel that in those States which under the bill would have an approved dam safety program that such a provision would not be necessary.

The State assistance program which the bill authorizes would provide $15 million for each fiscal year beginning in 1984 through 1987. While this assistance would be helpful, many States are limited as we have heard this morning, with respect to funding.

States are opposed to any imposition of specific technical Federal criteria on their own programs. We have in the past suggested that perhaps one way of reducing such a threat might be to allow the Governor of the State to certify to the Secretary that the State's program reduce the requirements of the bill here under section 8(a).

However, the State program would still be subject to the review and approval of the Federal Dam Safety Review Board that is created under section 11.

Further, we are not completely sure that all of the dams which the bill might cover would be subject to the State jurisdiction. Therefore, we would limit the program to those dams which are subject to the State jurisdiction.

As far as the inspection period, we feel that every 2 years we may be unnecessarily restrictive, that it should be changed to read within reasonable regularity. We have already heard that dams probably do not need to be inspected every 2 years.

Further, we do not feel that the legislation under paragraph 6 of section 8(a) should prescribe to the States those emergency procedures which they should stake. We also feel and we agree with paragraph 7 there, that the States should have remedial authority where action is to be taken to repair or replace unsafe dams.

However, under paragraph 6, we do not feel as it appears that the bill implies that the States should be required to maintain a standard fund. Under current budgetary procedures, the States, the Governors do have available to them emergency funds which they can use.

We further feel that it should be within the discretion of the States as to when such emergency action should be initiated.

Again, in keeping with the idea that a Governor should be allowed to certify the program, we would amend section 8, subsection (b), so that the Governor could certify to the Secretary that the State program meet the requirements of the bill if the Governor so chose.

If not, it would, as the bill now provides, be submitted to the Secretary for his approval which would be required within 120 days and if it did not meet those requirements that the Secretary would submit in writing to the States the reasons why it did not meet his criteria and what changes they might need to make.

The council supports the provision in section 8(c), which would allow the Secretary to revoke approval of a State program, again, given initially that the program was certified by the Governor, that only the review board could recommend that such approval be revoked and then that the Secretary, if he agrees, would revoke such approval.

The council member States do strongly agree with the need expressed under section 9 for liability insurance for dam waters. This has been a problem in some cases. Further, the council also strongly supports under section 10 a proposed revolving fund which would provide an alternative financing mechanism.

Often in the past, cases where safety problems have been identified, dam owners are often reluctant to undertake those remedial measures due to the lack of financing alternatives.

As the bill does now provide that financing would only be available to owners who could demonstrate to the Secretary that other funds were not reasonably available.

However, the fund, as we have already heard, is established at $20 million and this is clearly inadequate. Colorado, the 15 most hazardous dams in that State, they have been identified as costing $40 million to correct. As we have heard, Pennsylvania would cost $300 million. At least as far as Western States are concerned, we think a more practical estimate of current needs would probably be about $500 million.

Section 11 establishes the Federal Dam Safety Review Board. We would recommend that it be restructured somewhat as is now provided in the bill. We think that the nine members should be appointed by the President for their expertise in dam safety and that five of those nine members should be employees of States with approved dam safety programs under the act.

We do feel that the Federal agencies now have an adequate program for reviewing the safety of dams with a bill operated by the United States and the transferring such authority to the review board would probably be unnecessary.

We feel that the only role that the review board probably should have would be to monitor State implementation of the act.

Under section 12, the council strongly feels that where Federal dams are in a State with an approved program under this legislation that those agencies should be required to comply with all of the requirements of that approved State program.

Last, under section 13, we, again, as ICWP has already recommended, suggest that it be expanded to include all administrative personnel and not just dam inspectors in this kind of program.

As we have already heard from Senator McClure repeatedly, dam failures do occur. They keep interest in the subject high. Unusually high runoff and flooding in many of the Western States has raised some safety problems. Generally these have not been too serious. Fortunately, at this time, but as one State dam safety official remarked, when I spoke to him, who knows what will happen tomorrow. That was the day before the irrigation dam broke in Utah and flooded some rural communities.

It did create some damage. Senator McClure has also stated it is irresponsible to wait for another dam failure before we address this problem. The council would like to express its willingness to work with the subcommittee and the Congress in addressing this important problem and, hopefully, the recommendations which we have made will be used.

I thank you for the opportunity to express our comments and I would be glad to respond to any questions which you might have.

Senator ABDNOR. Let me thank you, Mr. Willardson, for coming before this committee today. We have a lot of respect for the Western States Water Council and we know it represents a sizable group with a great concern. So we do appreciate your coming here.

The Western State Water Council has suggested changing the $20 million revolving fund as you just suggested; $20 million is what Senator McClure called for in S. 671. They are talking about a $500 million revolving fund.

How did you come up with that figure?

Mr. WILLARDSON. That is really just a rough estimate based on the experience of our members who were present at the time the position was adopted. From what I hear from Pennsylvania, it probably wouldn't cover much more than the States of Pennsylvania, Colorado, and maybe a few others.

Senator ABDNOR. It is really attempting to put a price on the cost, what it would amount to?

Mr. WILLARDSON. No. We did not definitively study the cost of all western dams, the repairs that might be necessary.

Senator ABDNOR. Do you think there is a great need for this kind of legislation to get moving on dam safety?

Do you think or do you feel that it has been pretty well taken care of by most of the States?

Mr. WILLARDSON. As I stated, all of the member States have ongoing dam safety programs. That may be because dams, reservoirs and the storage of water has been so important to Western States.

The programs can be improved. Some do suffer from lack of funding. The position which you have along with our testimonies was adopted sometime ago under another administration.

The council members, I think, were very concerned about the imposition of specific Federal criteria on their own programs. They do not want to see that. But there is a great need for more funding and specifically in the area of providing for the rehabilitation.

I think the problem may be that the States are not in a position to fund all the remedial work that needs to take place. The dam owners don't always have those financial resources. It may be that unless there is Federal help, there will be, that the remedial work that needs to be done will not take place.

Senator ABDNOR. When you have your meetings, is this an often discussed subject? Every time something happens, then, everybody is excited. But is this an ongoing thing at your meetings when you get together.

Mr. WILLARDSON. Yes. We have reviewed the dam safety problems at numerous times in the past. It has been somewhat dormant recently as in the Congress because there have not been any serious problems. It is another concern again this year with the heavy runoff and the pressure on the non-Federal dams.

Senator ABDNOR. Could you explain in more detail why it is that the Western States Water Council strongly supports a Federal reinsurance program?

Mr. WILLARDSON. I am not intimately familiar with that problem. But as Senator McClure stated this morning, I guess there was not the insurance programs to cover dam owners until a few years ago.

It has been raised as a concern by some of our members. But dam owners are not able always to get that type of insurance.

Senator ABDNOR. One last question and I guess we have to move along.

Does the Western States Water Council have any position on the Corps of Engineers spillway capacity criteria?

Mr. WILLARDSON. No. We have not formally adopted a position. The council has not. I have heard concerns raised by some of its members as to the safety criteria which are used by the corps and specifically the problem of the maximum flood. In some instances it is clearly perhaps too restrictive, the State engineer from the State of Wyoming recounted to me an instance where there is a small dam in his State which holds about 6,000 feet and the probable maximum flood is over 200 million cubic feet. A spillway which would carry even half of that is probably not feasible. The failure of the dam would not add that much to the flood in that instance.

Senator ABDNOR. I am sure you are going to be meeting with your members in the near future and this still has to be a very important subject with them. With the McClure legislation in front of us, maybe you could submit additional testimony or information in writing that we would appreciate having in behalf of your group in relation to this type of legislation and how they feel about it, not that you haven't done a fine job, but you said they will pay a little more attention to what is actually occurring.

Mr. WILLARDSON. Thank you, Mr. Chairman.

Senator ABDNOR. So with that we would thank you for coming in. I assure you that we are very grateful for your input. Thank you very much.

Our last witness on this subject of dam safety is Charles Boothby, executive secretary, National Association of Conservation Districts. We are happy to have you with us today.

STATEMENT OF CHARLES L. BOOTHBY, EXECUTIVE SECRETARY, NATIONAL ASSOCIATION OF CONSERVATION DISTRICTS

Mr. BOOTHBY. Thank you very much, Senator.

I have submitted a statement and I will just hit some of the portions of it rather than read it in its entirety.

But I would say that soil conservation districts have been very much involved not only in the construction of the dams but being concerned about the safety of dams in recent years. Many State soil conservation agencies are also the State agency for dam safety. Many conservation districts assisted with the inventory of dams conducted by the Corps of Engineers during the 1970's.

In response to this concern on the part of conservation districts our association prepared a slide and tape audio-visual presentation on this issue.

I have included with my testimony a brochure which explains this presentation and we stand ready to make this presentation to the committee or its staff at your convenience. This primarily hits the need of concern on the part of dam owners and also on the part of the State agencies in dam safety.

This bill, S. 671 addresses the most acute problems faced by the States in getting organized to administer dam safety programs at the State level. Namely that the Federal Government recognizes the regulation of non-Federal dams is primarily a State responsibility.

In recent years with the corps or its agents out inspecting dams some confusion has deveveloped as to the final responsibility. This bill if enacted will send the right signals to the States.

We would take exception to the size limitation which apparently this bill does drop. We feel that without a lower limit on dam size the program would cover stock pond and irrigation ponds. The numbers of dams involved would jump from several thousand to probably several million. We recommend retaining the size limitation in this bill and would prefer to retain the precise limits.

Our information as of 1982 shows that only a few States have an adequate dam safety program. Adequate we have defined as including, one, legislative and regulatory authority, two, the necessary funding, three, adequately trained staff. Although 39 States have the legislative authority only 16 States meet all three criteria.

We support the provisions of section 7 and 8 that provide financial and technical assistance to the States. The criteria provided in section

8 for the approval of State programs appear to be comprehensive and in consonance with the study of non-Federal dam safety conducted by the National Research Council of the National Academy of Sciences in 1981. I would like to submit the report of the Academy for your perusal.

Senator ABDNOR. Thank you.

Mr. BOOTHBY. Owners of dams have found that it is almost impossible to find liability insurance at any price, irrespective of the condition of their dam. Section 9 we feel addresses this need and should be of value to the owners of dams.

Section 10 which provides for a revolving fund to assist dam owners in making repairs is a very necessary provision in this bill.

This is especially necessary where the owner of the dam rceeives no direct monetary return from the dam.

There does not appear to be included in this bill the authority for the Secretary to promulgate rules in implementration of this act. Although such a provision may not be necessary its inclusion would perhaps reduce future misunderstandings.

Mr. Chairman, our association strongly supports the passage of S. 671 and urges this committee to recommend its approval. We thank you for this opportunity to present our views.

Senator ABDNOR. We certainly appreciate your thoughts on this. In other words, the general purpose of the bill you are pretty much in agreement with?

Mr. BOOTHBY. Very much so, yes.

Senator ABDNOR. How large a loan fund to you think would be necessary?

Mr. BOOTHBY. After hearing the other testimony this morning and from my experience at the State level, $500 million, I think, would be absolutely necessary. That is a good round number.

Senator ABDNOR. Also you mentioned non-Federal dams are unable to get insurance.

Mr. BOOTHBY. Yes.

Senator ABDNOR. Do you have some evidence of that?

Mr. BOOTHBY. I don't have any of that with me.

Senator ABDNOR. But can you provide that?

Mr. BOOTHBY. I don't know as I can, but my experience in the State of Maine in working directly with the owners of dams they were just, they had looked for and told me specifically that they were unable to find any type of insurance which would cover their liability.

Senator ABDNOR. We want to thank you very much, Mr. Boothby, for giving us your statement today. It will be very important and valuable to us. Thank you.

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[NOTE: The balance of today's hearing which deals with deep water ports legislation may be found in part 2 of these hearings.]

[Statements submitted for the record and the bill S. 671 follow:]

INTERSTATE CONFERENCE
ICWP
ON WATER PROBLEMS

TESTIMONY OF

THE INTERSTATE CONFERENCE ON WATER PROBLEMS (ICWP)

Presented by

R. TIMOTHY WESTON

ASSOCIATE DEPUTY SECRETARY

RESOURCES MANAGEMENT

PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES

MEMBER, BOARD OF DIRECTORS, ICWP

Accompanied by

JOAN M. KOVALIC

EXECUTIVE DIRECTOR & GENERAL COUNSEL, ICWP

Before

THE SUBCOMMITTEE ON WATER RESOURCES

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

WASHINGTON, D.C.

JUNE 27, 1983

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Mr. Chairman and members of the Committee:

The Interstate Conference on Water Problems very much appreciates your invitation to appear today, and welcomes the opportunity to present testimony on the important issue of dam safety.

I am R. Timothy Weston, a member of the ICWP Board of Directors. By way of background, I serve as Associate Deputy Secretary for Resources Management in the Pennsylvania Department of Environmental Resources, and in that capacity oversee Pennsylvania's water resources, dam safety, water obstructions and engineering programs. I should also note that currently I am serving as Chairman of the Federal-Interstate Delaware and Susquehanna River Basin Commissions.

As this Committee is well aware, the Interstate Conference on Water Problems is a national association of State, interstate and intrastate officials concerned with water quantity and quality management, conservation, and development.

Certainly, no Congress in recent history has confronted more varied or critical water issues than those faced by this session. ICWP has, in separate written testimony to this Subcommittee, addressed a number of those important issues -- including water project planning and authorization processes, cost-sharing and infrastructure financing. Today we would like to focus for a few minutes on another important subject -- dam safety, and specifically on the proposals contained in S. 6[illegible], as introduced by Senators McClure and DeConcini.

The States actively support the initiation and continued maintenance of a cooperative Federal-State program for inspection of public and private dams, coupled with regulatory programs to assure the correction of unsafe conditions, and proper design, construction, and maintenance of dam facilities. Our concerns in this field have been repeatedly evidenced in statements delivered over the past decade by ICWP, the National Governors' Association, the Western States Water Council and others.

History has confirmed an unfortunate pattern. Dam safety receives scant attention on the public agenda until disaster strikes. Buffalo Creek Dam, Teton Dam, Toccoa Falls Dam, and in my own State, the failure of Laurel Run Dam in the 1977 Johnstown disaster, are only the most recent examples of this "attention by disaster" phenomenon. The ironic fact is that the better government does its job of regulation and oversight to prevent failures and protect public safety, the more such programs slip from public view and priority in the press of other crises. The challenge for us as public leaders is to remember the lessons of past inattention, and to establish programs to protect health, safety and property on a firm foundation for the long-term public good.

We do not need a cooperative State-Federal dam safety program just to demonstrate to our constituent public that government can respond to personal and public tragedy. What we do need is a dam safety program designed to anticipate and minimize the chances of such losses occurring.

Dam safety inspection work is not something which can be done once and then forgotten. Instead, as S. 671 recognizes, inspections must be conducted on a periodic and continual basis. There must be a continuing program, funded at adequate levels, to monitor and oversee the safety of dam facilities in this nation. Waste water treatment plant construction and safe drinking water programs have attained this level of significance and support; why not dam safety?

Over the past six years, the States and Federal Government have gained valuable experience and data in defining the nature and magnitude of the dam safety program facing this nation. Under the guidance of the Army Corps of Engineers, the National Dam Safety Inspection Program has examined some 8,818 non-Federal dams. Overall, Phase I inspection reports on these facilities revealed that approximately one-third of America's "high hazard" dams (2,925) were subject to serious safety defects, ranging from stability and foundation problems to seriously inadequate spillways.

Having for the most part completed the first round of national inspections in a cooperative Federal-State effort, and having defined the problem, the hard task remains. How can we best correct these conditions in an efficient, cost-effective manner, and establish a long-term program to assure the continuing safety of public and private dams?

We believe that many of the concepts contained in S. 671 provide a basis for such a long-term State-Federal cooperative effort. At its 1982 Annual Meeting, ICWP specifically endorsed the prompt enactment of legislation which:

"(a) Confirms that the States have the primary role in the implementation and administration of dam safety programs, including inspection and establishment of standards to fit individual State needs;

(b) Provides for the continuing program at the State level to ensure that all dams are properly inspected and appropriate steps taken to correct serious hazards;

(c) Provides for the evaluation of other potential problems and needs in developing effective State dam safety programs, and provides adequate financial and technical assistance sufficient to ensure that State-design programs can be accomplished; and

(d) Provides for liability insurance for dam owners, low-cost loans, or other means of financial assistance to correct hazardous conditions of dams, training and technical assistance for State dam inspection programs, and research to develop cost-effective inspection techniques and equipment."

In light of these general principles, we would offer several comments on specific elements of S. 671.

(1) Following the National Dam Inspection Program, the States have made enormous strides in improving State dam safety regulatory programs. New laws have been passed, and increased resources assigned to the task of monitoring dams and enforcing compliance with safety standards. But much remains to be done. The States face an enormous task. In Pennsylvania alone, for example, the national inspection program disclosed 209 dams with unsafe conditions. Our professional staff has concentrated its forces on pursuing corrective action at 63 of the most critical facilities, but 146 dams on our list remain to be addressed.

The proposal of S. 671 to offer assistance to dam safety programs would certainly aid in bolstering resources for State regulatory programs and accelerating corrective actions. Considering the enormous loss of life and property involved in just one avoidable dam failure, an investment in a Federal-State partnership for dam safety would seem most conservative and prudent. For this reason, we would heartily endorse the concepts of Section 7 of the bill.

(2) We would caution against establishing by statute a specific inspection frequency for all dams. The States would, thus, favor amending Section 8(a)(3), which currently requires the Secretary of the Army to base State program certification upon the State having a procedure to inspect every dam within the State at least once every two years.

Inspection frequency should be determined by, and be commensurate with, the condition, size, type, location and downstream hazard potential associated with each dam. In some cases, a five year or more inspection frequency may be totally appropriate based upon those parameters; for other cases, inspection should be far more frequent. To impose a two-year frequency across the board would detract from the State's ability to establish priorities, inspect and monitor the conditions of those dams which would, because of high hazard potential, require much more frequent inspection. We would suggest that Section 8(a)(3) be revised to mandate a procedure to inspect every dam within the State in accordance with a schedule and system of priorities contained in the approved State program. Such language would incorporate a degree of flexibility appropriate to State program implementation.

(3) One of the most difficult obstacles to correction of unsafe conditions at non-Federal dams is the financing of rehabilitation work. As we pursue the inspection program, a large portion of the unsafe dams identified are found to be owned and operated by small communities and water supply systems. The small tax and rate base of these entities bodes ill for their ability to raise necessary capital quickly to effect required emergency remedial projects.

Thus, the States support the concept of funds being made available for emergency remedial work when such work is required to avert potential loss of life or property in areas below dams in critical stages of disrepair. Section 10, authorizing the creation of a $20 million revolving fund for loan purposes, is an initial and important step in this direction. In view of experiences to date in the national program, however, we believe this level of funding will prove inadequate.

The Congress may wish to consider an alternative delivery mechanism for this assistance, in lieu of a direct Federal agency/dam owner loan program. A number of States, including my own, have established water facility restoration loan funds or infrastructure bank programs to provide assistance in financing such restoration projects. "Piggy-backing" Federal loan assistance with such State loan assistance programs would reduce duplicative paperwork and aid in more effective targeting of limited available funds. We would, thus, recommend that in States with approved dam safety programs, consideration be given to allocating Federal loan assistance funding to the States on a pass-through basis. In a manner analagous to State administration of the EPA waste treatment construction grant program, this pass-through approach would allow the State, under whose program the emergency condition is identified and remedial work ordered, to coordinate allocation and disbursement of assistance funds to carry out priority corrective work. It is understood and agreed that financial assistance under this program would be contingent upon a showing that funds are not otherwise reasonably available.

(4) ICWP supports creation and maintenance of an extensive training program as provided in Section 13 of the Bill. We recommend that the language of Section 13 be amended to read "dam safety personnel," rather than "dam safety inspectors". All of our engineering, geologic and technical staff involved in inspection, design review and enforcement require on-going training to be most effective. It is no secret that there is a shortage of adequately trained personnel to accomplish the number of dam inspections required annually, as well as maintain other elements of the dam safety regulatory program. A training program should provide for constructive interchange between qualified State and Federal dam safety personnel on problems of both technical and administrative concern. Only through a concerted effort to develop, train and maintain the capabilities of dam safety personnel will a national dam safety inspection program function at an optimum level. This is one of the States' most critical needs, and deserves full support and adequate funding.

(5) We concur entirely in the research program authorized in Section 14. Improvement of the state-of-the-art of dam safety inspection techniques and the development of better inspection and monitoring equipment are logical supports for the national program.

The States represented by ICWP stand ready to join in a renewed State-Federal partnership for dam safety. Assuring the safety of America's private and public dams is a national priority, requiring a continuing cooperative State and Federal effort. The States take pride in the interim steps taken under the National Dam Inspection Program to bring attention to the challenges we confront. Now is the time to establish a firm foundation for national dam safety, in fulfillment of our mutual public trust.

In addition to the important issue of dam safety, ICWP is concerned with general questions of water project cost-sharing and financing. For water projects which come before the Subcommittee, Federal assistance has been predominantly: 1) direct Federal capital investment coupled with a long-term repayment contract, or 2) shared capital investment without reimbursement, i.e., cost-sharing. Examples of the first type are: 1) provision of storage for municipal and industrial water supply under a long-term repayment contract with a State or local entity, and b) marketing of power from a Federal hydroelectric powerplant at cost recovery rates. Examples of non-reimbursable cost-sharing are local flood protection, beach erosion control, and recreation development at multi-purpose reservoirs.

Important Federal assistance also includes the construction grants program of the Clean Water Act, the development of irrigation water supply in the seventeen western States through a combination of cost-sharing and repayments, and loans for rural sewer and water facilities.

State and local access to Federal assistance requires closely coordinated planning and programming with the Federal agency. This is an especially long and difficult process where Federal participation must be authorized by Congress on a project-by-project basis. The Subcommittee on Water Resources is very familiar with the many steps which precede and follow project authorization. Important decisions and commitments must be made by States and local entities years in advance of receiving the agreed upon assistance. The decisions, commitments, and lead times must be carefully built into State plans, programs, implementation schedules, and long-term capital budgets.

States and local entities cannot implement these long-term plans without a reasonable degree of certainty and stability in the policies and budgets governing Federal assistance in water projects. Today, previous policies are questioned. New policies are proposed and debated. Budgets have declined. The delayed water project backlog is huge. ICWP is deeply concerned that the issues surrounding water project financing and cost-sharing be resolved soon.

Last year, ICWP established a task force of knowledgeable members chaired by Secretary Jackie Swigart of the Kentucky Department of Natural Resources. This Cost-Sharing Task Force is charged with investigating the issues affecting Federal water project programs and preparing a paper on the principles which should govern Federal cost-sharing and financing policy.

The first draft of the Task Force paper was widely distributed at our Washington seminar in April. The Board of Directors has endorsed the concepts and encouraged the directions pursued. The latest draft of this paper is attached and submitted for the record. The Task Force paper will be placed on the agenda of the annual meeting of ICWP in September for approval of the members.

I want to highlight some principles which all our members agree should govern Federal cost-sharing and financing policies. Then, I will summarize our suggestions on separating and grouping issues in this complex problem which we believe will aid resolution. We have many suggestions to clarify roles and improve Federal, State, and local cooperation. These concepts have broad support among our members.

On the other hand, there are two important issues where we have not reached consensus yet. One involves the backlog of authorized but unconstructed projects. The problem is simply to what degree should new cost-sharing and financing policies be applied to these projects? Or should they be grandfathered entirely? Many of our members feel that project authorizations embody solemn agreements which must not be disturbed. This is especially important where project plans provided compensatory or replacement water developments which have not been completed. The other issue is the appropriate sharing of costs for major project purposes between the Federal government and the local sponsor. This is the issue addressed in Senator Stafford's bill, S. 1031. As I mentioned earlier, cost-sharing applies to non-reimbursable purposes such as flood control, recreation, and beach erosion control. Irrigation is also partly reimbursable. It is not an issue in municipal and industrial water supply and hydroelectric power where all investments will be repaid over time with interest, but upfront financing is a problem for many State and local agencies.

In my opinion, there is no major cost-sharing issue with our members if we grandfather previously authorized projects. Congress has standardized cost-sharing for recreation and beach erosion control at proportions which are reasonable and widely acceptable. There is no need to change these. Flood control cost-sharing is highly variable and should be more unified among different types of structural projects and between structural and non-structural measures. I believe reasonable and acceptable flood control cost-sharing will be found in the range of 15% to 25% as a proportion of construction and land rights costs. This non-Federal share should fully credit the value of "a-b-c" contributions. We accept full cost recovery for water supply, hydropower, and irrigation water not subject to the provisions of the Reclamation Act.

With this in mind, I will now summarize five principles in the Task Force paper which are the foundation for our suggestions.

(1) We recognize that there are water resources projects of a national nature in which Federal interest and involvement must continue and which should be wholly Federally financed.

(2) There are State and local projects which have long-term repayment capability but need access to upfront capital.

(3) Project costs should be recovered from identifiable beneficiaries to the extent possible, but some purposes require some non-reimbursable cost-sharing.

(4) Such cost-sharing should be equitable for the project purpose and consistent among agencies and means of achieving the purpose.

(5) We believe State and local entities should have a greater role in project selection to address priority needs and design more appropriate solutions for an overall reduction in national water investment costs.

It can be seen that the issues appear to resolve into the topics of financing, cost-sharing, project selection, national projects, and State/local projects. Also, any revision of project selection, financing, or cost-sharing policies must address existing, authorized projects as a special category.

The Task Force paper addresses the issue of existing projects and gives phase-in recommendations on which consensus has not yet been reached. Nevertheless, there is consensus that no project or unit should be constructed until binding contracts are made to provide the cost-sharing or capital repayment required in the project authorization.

The Task Force paper next suggests two distinct systems for project selection: National Projects or State and Regional Priority Projects.

National projects originate with the Congress and Administration to serve national needs such as national defense, interstate commerce, or major energy development. Such projects should be financed entirely by the Federal government with cost recovery of vendible purposes through arrangements established by Congress. These projects should be selected according to national priorities established by the Administration and Congress. States should not be involved in selection or implementation but should have ample opportunity to review proposals, make comments, and have their concerns considered by Congress.

State and Regional Priority projects arise from priority lists prepared annually by the governor. Here States have the dominant role in project selection. The Task Force suggests that Federal assistance for developing project plans be funded through a block allocation. The governor will provide the priority list of studies and has the option of designating a Federal agency to provide technical assistance or conducting the study with State resources.

Projects with economic and environmental benefits exceeding costs are eligible for Federal financing of vendible purposes and federal cost-sharing in non-vendible purposes. The Task Force suggests as an option a "financing authority" to which the governor submits a priority list for financial assistance.

The financing authority may provide capital for repayable purposes where the State has authorized a repayment mechanism and process. Where projects provide non-reimbursable purposes, such as flood control or recreation, the authority submits the projects to Congress for authorization of Federal cost-sharing assistance in those purposes. Funds are appropriated to the authority.

Financing is considered the pivotal issue. Some States see a need to establish a national water project bank which can pool capital formation ability and risks to raise ample amounts of capital through the sale of revenue bonds. Whether this need can best be met by modifying existing authorities or by establishing a new entity is a matter still being considered within ICWP.

The ICWP Task Force suggests a financing authority as one option to meet the national need for financing vendible services such as water supply for State/regional priority projects. Cost-sharing would be contributed by the authority for non-reimbursable purposes according to policies and pursuant to authorization and appropriation by Congress. National projects, on the other hand, should be selected and financed by the Federal government with cost recovery arrangements specified by Congress. A major, unresolved issue is to what degree new cost-sharing or financing requirements should be applied to authorized but unconstructed projects.

The satisfactory resolution of important issues such as dam safety and water project cost-sharing and financing is urgently needed. ICWP wants to assist in any way possible. We appreciate the opportunity to submit this testimony.

The Interstate Conference on Water Problems maintains an office at 21 Dupont Circle, N.W., Suite 600, Washington, D.C. 20036, headed by Joan M. Kovalic, Executive Director and General Counsel.

ICWP COST-SHARING TASK FORCE
DRAFT WATER RESOURCES FINANCING PROPOSAL
June 21, 1983

INTRODUCTION
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INTRODUCTION

America's growth and economic prosperity has relied heavily on long-term capital investments in physical facilities for water supply, wastewater treatment, flood control, waterborne transportation, and water-related recreation. Not only have these investments contributed to economic expansion, but they have also produced an improved standard of living and a quality of life not experienced by a majority of the world's population.

All levels of government now recognize that more than two decades of neglect in non-defense capital outlays has resulted in an unprecedented deterioration of essential capital facilities. In response, state governments believe that re-emphasizing and meeting the capital needs of America's water-based infrastructure will help the nation sustain viable, long-term economic growth.

State representatives agree that, coincident with the national commitment to rebuild and maintain the multi-billion dollar investment in essential public works, efforts must be made to reduce future year government deficits. At the same time, state officials support the concept that beneficiaries must be required to repay the cost for the services that are being provided.

Overall, state water officials support the need to (1) maintain, renew, and expand America's water infrastructure, (2) reduce out-year deficits, and (3) recover reasonable beneficiary costs. While supporting the three basic objectives, it must be reiterated that state control over water resources priority setting and decision making must be restored and increased in order to effectively carry out water infrastructure development.

State representatives believe that they are in the best position to rationally set detailed development priorities for water infrastructure. Furthermore, state water experts agree that the fundamental issue in water project financing is not cost-sharing but is, instead, capital formation. In order to adequately resolve water infrastructure problems, the states believe that a comprehensive reform of the current system for selecting and developing water facilities is essential.

WATER DEVELOPMENT PRINCIPLES

State initiatives to develop an alternative procedure and system have been guided by five general principles. The principles are:

(1) Federal involvement in major water resource projects of national and Federal interest are necessary and must continue.

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(2) Non-federal participation in water development is only feasible if non-federal participants have access to sufficient funds to enable study and construction involvement. Most non-federal entities do not now have the ability to generate sufficient front-end funds, and a mechanism to convert long-term repayment capability to up-front financing is, therefore, necessary in those circumstances where front-end financing may be preferred by the non-federal sponsor.

(3) Project costs should be recovered from identifiable beneficiaries through user charges, taxation, and the sale of vendible products. Development of cost recovery policies must, however, take due regard of (a) the administrative practicality of imposing and collecting charges upon project beneficiaries and (b) the financial constraints and economic conditions of the identifiable beneficiaries and communities.

(4) Every application of cost-sharing policies and arrangements must be consistent and equitable for project purposes and in federal agency application.

(5) Restoration of non-federal flexibility in study and project selection and development will result in an overall reduction in the cost for public water investment and better contribute to available resources being used to address priority needs.

Because current waterproject financing arrangements do not fully incorporate the five preceding points, a revision of the existing project selection and authorization process is warranted and necessary.

WATER PROJECT FINANCING

Any revision or modification of the current water development system must consider both selection of worthwhile projects and the availability of capital needed to pursue development and the appropriate degree of federal and non-federal involvement. At the same time, any mechanism that is created to assist in forming capital for public water resources investment must also aid and support the project selection process.

The following proposals appear to meet the five basic principles outlined previously and to satisfy the priority establishment and project selection concerns expressed most frequently by the states. The proposals are presented in three sections: (I) grandfathering of existing projects, (II) project selection, and (III) financing arrangements.

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I. Existing Projects

Establishment of a new water development process must recognize that certain projects that are underway should continue under the existing system. In recognition of this constraint, the following "grandfather" proposal appears to adequately address state concerns providing that any policy that is established recognize and fairly consider past federal commitments made to certain states under unique circumstances. Special consideration is especially necessary in those cases where federal project development has already been completed but compensatory or replacement development has not been undertaken or concluded.

A. The key decision factor in determining whether a project will be grandfathered under the existing system or will be required to adhere to the proposed system is the actual award of an appropriation.

B. Studies underway or projects in design or under construction that have an active approriation will be completed under the existing system. Generally, new study, design, or construction starts will convert to the new system for construction selection and funding. Some phasing of the new system may be desirable to avoid substantial disruption of project momentum.

C. All phases or units of projects under construction with an active appropriation will be completed under the existing system.

D. After completion of the studies, design plans, or construction activities outlined in B and C, all projects will be required to adhere to the new system of selection, authorization, and financing.

Because of past development accomplishments and the need to better prioritize water resource investment decisions in the future, fewer new project starts are expected to occur. As an alternative to pursuing entirely new projects, existing projects may be reauthorized for new or additional purposes. In the case of existing project reauthorization, payback arrangements for the original benefits foregone and uses lost will need to be established. As a basis for establishing such arrangements, the states do not believe that payback should be established on either revenue foregone or current project value. Instead, the states believe that payback benefits on previously constructed projects should be based on the benefits at the time of original authorization.

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II. Project Selection

In order to produce the fundamental change required to continue to fund public sector capital investment in water infrastructure, an entirely new approach to project selection, development, and construction is needed. Inherent in a new approach is the need to distinguish between water development activities that are of national importance and water activities that are of state interest and priority. Establishment of separate study and construction financing systems for the two areas will promote restored state flexibility, authority, and autonomy, as well as to ensure that available financial resources are committed to priority needs. The overall cost for water development financing should, as a consequence of adopting a new system, be reduced.

A. National Projects

National projects are those which result from congressional enactment of legislation and policy adopted by administration officials. Projects to be included in this category may be those that address national defense, international and interstate commerce, major energy development, and multistate or regional problems. Because national projects of administration or congressional origin are in the national interest, they should be 100 percent federally financed. It is, nevertheless, recognized that some benefits from national projects may involve vendible products, and that they should be recovered through standardized arrangements created by the Congress.

The procedure for completing feasibility studies for national projects must provide for state input and involvement. First, the federal sponsor should be required, in advance of funding a feasibility study, to demonstrate or explain the project's national interest. Second, the federal sponsor should be required to consult with the Governor(s) or the Governor's designee of the affected state(s) prior to submitting a feasibility study proposal for funding. As a part of the required consultation process, the affected state(s) must have an opportunity to express its concerns or objections to the federal sponsor. In turn, the federal sponsor should be required to consider the state(s) views, regardless of whether changes that accomodate state concerns are made, and transmit the study proposal and the state(s) views to the Congress in advance of the administration's request for feasibility study funding. Third, the appropriate authorizing committee of Congress should express a position on each feasibility study proposal as a part of a committee report. The committee report should confirm and explain why the project is in the national interest and, if state concerns or objections have been expressed, indicate whether they are valid and how they can be satisfied or adequately addressed. If state concerns cannot be answered or mitigated, the committee report should explain why they are being overridden. Fourth, Congress must individually authorize and appropriate funds for each feasibility study. The cost of conducting reconnaissance and national project feasibility studies should be born entirely by the federal sponsor. In order to avoid competition between work on non-federal project studies and national project feasibility studies, congressionally allocated funds for both categories of feasibility studies must be separated. Separate funding of the two feasibility study categories should ensure that national project studies will not take precedence over the financing needs for non-federal priority study proposals. Fifth, the affected state(s) must be extended an opportunity to participate in conducting the study if they wish to do so, with in-kind services being eligible as the state's contribution.

Following completion of the feasibility study phase, national priority projects would advance to design and construction selection. As a part of this second-stage review, the affected state(s) must be given another opportunity to comment on study results and recommendations. Further, the project must meet Principles and Guidelines in order to qualify for design and construction submission. Specific evaluation requirements would include: (1) the project's NED and environmental quality benefits must be equal to or greater than project costs, (2) the project must represent a cost-effective solution, and (3) the proposed action must meet environmental standards. The study must be submitted directly to Congress and include all state comments and responses to state concerns and objections.

Independent of feasibility study submission to Congress, the President would be required to forward a national project priority list to Congress in conjunction with submission of the federal budget. The administration's priority list should adequately explain the need for each project, including all considerations for timing. Upon receipt of the national priority list, congressional committee hearings would need to be held. In turn, a committee report clearly expressing the national interest and responding to state objections, including providing reasons for why state concerns have been overruled, would be prepared. As a final step, Congress would individually authorize projects and appropriate project-specific design and construction funds.

B. State and Regional Priority Projects

The creation of a separate state and regional priority project selection and financing system fills a long-standing void in the area of water resources development. In addition to ensuring that resources are assigned to priority needs, the new system will serve as aid in distinguishing project users and beneficiaries who will be responsible for long-term cost repayment.

The state and regional priority system is similar to the approach being proposed for national priority projects. While different in detail and the source of financial assistance employed, the proposed selection system also consists of two phases: feasibility studies and priority project design and construction.

As a first step in the non-federal feasibility study process, the state(s) must decide and document that a problem exists. Second, the involved state or states would be required to develop and submit, through the Governor or the Governor's designee, an annual priority list to a national financial assistance agency for funding consideration. The priority list would (a) address the individual studies that need to be performed and (b) contain a recommendation on which federal agency should serve as the lead for conducting individual studies. Should the state(s) choose to do so, the option of not identifying a particular federal study agency but, instead, allowing the state to contract with a federal agency could be specified. Third, the state must formally agree to participate in the study and consent to the scope of the study on each state priority project before feasibility study work could commence.

Funding of state priority list project studies would be accomplished through an annual or as needed congressional appropriation to a national financial assistance agency or authority. Funds assigned to state or regional studies must, as emphasized previously, be independent and separate from funds for national feasibility studies. Distribution of the majority of assistance from a national financing authority would consist of funds assigned by formula, to at least include population and land area, with a maximum dollar amount for any one state and a minimum amount for each state. Importantly, the states must be allowed to participate in establishing the criteria for the formula. In addition, discretionary funds available for competition would also be distributed. Again, states must be allowed to work with a national financing authority in developing the criteria for discretionary awards.

Following feasibility study completion, each state would develop and annually submit a priority project construction list to the national financing authority. The list would be submitted by the Governor or the Governor's designee and would identify projects eligible for funding. The list would also specify the federal agency to be responsible for carrying out advanced design and construction. As with state and regional feasibility studies, the option of allowing the state to contract with different federal agencies for engineering and construction services should be preserved. Last, in order to qualify for federal financial assistance, the economic and environmental benefits of projects on the state and regional priority list must, on balance, exceed the projected costs. National and regional benefits should be eligible for cost and benefit consideration.

Construction funding under the new state and regional system would necessitate that proposed projects be outside of the congressional process established for national projects. State-initiated projects would consist of those that the state deemed appropriate, to include even single-purpose projects such as public water supply development and distribution line restoration and rehabilitation. Funds for project construction would come from congressional appropriations for the federal costs, if any, or non-vendible share and from the authority's sale of revenue bonds for the vendible items with recoverable costs. In order to obtain the federal share for non-vendible costs, the national financing authority would submit an annual project list consisting only of those projects on the state priority list to Congress for authorization and appropriation action.

Non-federal payment for vendible project portions is entirely contingent on establishment of a mechanism and process to convert the non-federal sponsor's long-term repayment capability to up-front project financing. Assuming that a financing vehicle is established, funding of state or regional priority projects could only proceed if there is an agreement to repay from vendible revenue the authority for its sale of bonds to cover project construction. Award of the congressional appropriation for construction of a project's federal share could involve

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a formula with both an automatic dollar amount and a discretionary amount open for competion that could revert back to the Congress beyond a certain period of time for use in funding water development budget line items. After the authority has been fully repaid for the cost and interest of its bond sales, continuing revenues from vendible project components would be assigned to basin or state accounts for use in financing future projects.

Criteria for allocating federal discretionary funds among state projects need to be established to avoid creating inequities and to ensure that resources are dedicated to priority needs. Establishment of discretionary funding criteria should give precedence to projects that (1) provide multi-state or regional benefits, (2) are cost-effective, (3) have special timing requirements, (4) address health and safety problems first and economic development and employment problems second, and (5) have a commitment of readiness to proceed by the non-federal sponsor.

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III. Financing Arrangements

A. Purpose and Possible Approaches

It is acknowledged at the outset that there is currently no unanimity among state water management officials on funding arrangements for water development. Some states believe that the issue is one of continuing to obtain federal subsidies, while others favor increasing state capability through user fees, development funds, general tax revenue, and the special district establishment. Further, several states favor combining the two preceding approaches. However, a number of states view the issue differently. They see capital formation (that is, access to the capital) as the major funding problem and believe that a central funding authority should be created as the primary vehicle to resolve the capital access problem.

The preceeding approaches are not necessarily inconsistent or incompatible. Because a centralized funding authority represents one innovative approach which appears to offer considerable promise and has the support of a number of states, this alternative has been developed in greater detail and is presented in the following three sections.

B. National Water Financing Authority

The establishment of a National Water Financing Authority represents one option for or approach to providing the large amount of financial resources required for water development. Creation of a national funding entity would provide a mechanism to (1) ensure that an equitable process is developed, which does not exclude any state or non-federal user from pursuing desirable projects because adequate funds are not available, (2) address legal, institutional, and financial or capital access constraints, and (3) consider the overall practicality and implementation costs of public sector water development actions proposed for the nation.

The explicit purpose of the Authority should be to provide a vehicle that allows for the rational, expedited selection of priority water projects for study and development. In carrying out its responsibilities, the Authority would act as both a water project bank to pool capital formation and risk and as a financing agency to allocate funds generated through the sale of revenue bonds, national fees and charges, and congressional appropriations. The Authority, through its financing role, would be used to convert non-federal long-term repayment capability to up-front financing.

Authority composition should be governed by the need to establish an independent viewpoint, avoid political orientation to the federal government, promote credibility with the nation's financial community, and reflect a balance among geographis regions. The Authority should consist of a charman and ten emembers appointed by the President, with the advice and consent of the Senate. At least seven of the eleven members to be appointed by the President should be nominated from persons suggested by the National Governors' Association. Members would serve staggered four year terms and must have knowledge and experience in water management, engineering, planning, law, finance, or related fields.

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C. Authority Role and Responsibilities

The Authority would play a major role in project study and construction selection. As indicated previously, a priority list of problems or projects requiring preparation of feasibility studies would be submitted to the Authority by each Governor or the Governor's designee. In order to receive study funding, the non-federal sponsor would be required to participate in the study through the provision of data and staff work. Federal agency study participation, as set out in the state priority list, would be funded from a congressional appropriation to the Authority. Based on priority lists from the states, the Authority would approve targetted funding and would select projects to be studied with discretionary funds. The Authority would then assign the studies and allocate funds to the designated federal agencies or to the state for contracting.

Following the completion of feasibility studies for non-federal priority projects, each state would submit, through the Governor or the Governor's designee, an annual design and construction priority list to the Authority. Projects would need to be cost-effective, provide benefits that exceed costs, and comply with environmental standards to be eligible for inclusion on a state list.

In advance of the Authority's sale of revenue bonds and project funding, the non-federal sponsor would be required to agree to repay the Authority for the cost-share associated with reimburseable project elements or purposes. Repayment terms would provide for assistance to be paid back over the life of the project or a specified time period and for interest repayment at the same rate the Authority would pay on its bonds, with the interest rate fixed at the time of sale. Additionally, the non-federal sponsor would agree to assume any required responsibility for project operation and maintenance or reimburse a federal operating agency for the appropriate share of O & M costs.

If proposed projects involved impacts affecting other states, potential interstate conflicts would need to be resolved to the satisfaction of the Authority prior to funding approval. Where appropriate or required by law, interstate conflicts should be resolved by existing or in-place mechanisms.

D. State and Regional Project Financing

Actual project funding involves two parts. First, the Authority would recieve and use an annual congressional appropriation to finance the federal share of costs for projects from the state priority list. Assignment of the appropriation for the federal share of priority list project costs would involve the Authority using an automatic amount or formula portion and a discretionary amount. As a second component, the Authority would issue revenue bonds to finance the non-federal share of eligible projects. The revenue bonds would only be sold as needed to finance the non-federal or reimbursable share of project construction.

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The Authority's sale of revenue bonds would be backed primarily by revenue (but secondarily by full faith and credit) to be generated by those project purposes or elements that are ultimately reimburseable by the non-federal sponsor. Bond proceeds would, in effect, be allocated by the Authority as "loans" for specific projects, with assurance by the non-federal sponsor to repay project loans and interest from vendible product revenues. Authority bonds could also be used to finance project costs associated with elements for which national fees or charges are collected. Use of this approach would require that project fees or charges be dedicated to loan repayment.

It should be re-emphasized that a federal cost-share will be required for certain project purposes or elements (for example, flood control) associated with non-federal priority projects. For the federal cost-share portion of such projects, federal costs would be financed by annual appropriations from Congress to the authority. While cost-shares could be appropriated on a project-by-project basis, a preferable approach would be to provide a total appropriation for all projects of a particular type or purpose, such as flood control, for subsequent allocation to individual projects by the Authority.

A distinct advantage of the proposed financing system would be that the protion of total project costs subject to eventual repayment by a non-federal sponsor would be outside of the federal budget process. Through this system, a combination of available project funds (an appropriation for the federal share and bond revenue for the non-federal share) could be assigned by the Authority to the federal agency selected by the state, in consultation with the Authority, for construction. Alternatively, a direct loan from the Authority to the appropriate basin, state, or local sponsor could be provided for use in contracting for project development.

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LEVELS OF NON-FEDERAL PARTICIPATION

The states believe that the establishment of cost-sharing and cost-recovery levels is a matter for congressional decision. Adoption of the position that Congress should determine appropriate levels to recover vendible product costs from project users and beneficiaries is entirely consistent with legislative action during the 97th Congress. Furthermore, congressional enactment of non-federal payback levels for design and construction and project O & M costs (1) strengthens the role of the Congress in water resources decision making and (2) complements the process of allocating congressional appropriations for the federal non-reimburseable share of state priority projects to the authority.

Action by Congress to set out cost-sharing rates should consider at least three factors. First, participation or repayment levels will depend on the type of project or a project's proposed purposes. While different rates for different purposes are necessary, all federal agencies must apply uniform rates for the same project purpose. Likewise, consistent rates must be established for structural and non-structural approaches. Second, financing and repayment terms must address project needs over the long-term; in this regard, up-front financing should not be a prerequisite. Third, the ease and cost-effectiveness of investment recovery should be a factor in congressional establishment of cost-sharing rates and pay-back arrangements.

STATEMENT OF ANTHONY G. WILLARDSON

ASSOCIATE DIRECTOR OF THE

WESTERN STATES WATER COUNCIL

BEFORE THE SUBCOMMITTEE ON WATER RESOURCES

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

ON

NATIONAL DAM SAFETY

AND

COST SHARING POLICY

June 27, 1983

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE:

MY NAME IS TONY WILLARDSON, AND I AM THE ASSOCIATE DIRECTOR OF THE WESTERN STATES WATER COUNCIL. THE WESTERN STATES WATER COUNCIL WAS CREATED IN 1965 BY WESTERN GOVERNORS IN ORDER TO ACCOMPLISH EFFECTIVE COOPERATION AMONG WESTERN STATES IN THE INTEGRATED CONSERVATION, USE AND DEVELOPMENT OF THEIR WATER RESOURCES. TWELVE STATES ARE REPRESENTED ON THE COUNCIL BY MEMBERS APPOINTED BY AND SERVING AT THE PLEASURE OF THE GOVERNOR OF EACH STATE. THE COUNCIL HAS IN THE PAST ACTIVELY REVIEWED AND COMMENTED ON FEDERAL DAM SAFETY LEGISLATION.

COUNCIL MEMBER STATES ARE LOCATED IN THE MOST ARID REGIONS OF OUR NATION AND WATER RESOURCE ISSUES ARE OF CRITICAL IMPORTANCE. DUE TO THE SCARCITY OF THE RESOURCE, THE WISE USE OF WATER HAS ALWAYS BEEN FUNDAMENTAL IN WESTERN WATER RESOURCE MANAGEMENT. SINCE PIONEER DAYS, DAMS AND RESERVOIRS HAVE BEEN USED TO CONTROL AND CAPTURE SEASONAL FLOOD WATERS WHICH LATER SERVE AS A SOURCE OF SUPPLY FOR MANY WESTERN CITIES, TOWNS AND FARMS DURING DRY PERIODS. SUCH STORAGE PROJECTS ARE ESSENTIAL, BUT THE BENEFITS ARE NOT WITHOUT RISK GIVEN POSSIBLE DAM FAILURES. ALL OF OUR MEMBER STATES HAVE ONGOING DAM SAFETY PROGRAMS.

DAM SAFETY ACT OF 1983

WITH RESPECT TO S. 671, INTRODUCED BY SENATOR MC CLURE, THE WESTERN STATES WATER COUNCIL SUPPORTS MANY OF ITS CONCEPTS. HOWEVER, WE HAVE IN THE PAST SUGGESTED AMENDMENTS TO THE BILL.

SIZE OF DAMS

THE BILL WOULD AMEND P.L. 92-367 BY DELETING THE FINAL SENTENCE OF SECTION ONE WHICH LIMITS APPLICATION OF THAT LAW TO A CERTAIN SIZE OF DAMS. THE COUNCIL BELIEVES SUCH AN EXPLICIT LIMITATION AS TO THE DEFINITION OF A DAM IS BOTH NECESSARY AND DESIRABLE.

RIGHT OF ENTRY

THE BILL WOULD ALSO AMEND THE SAME LAW TO PROVIDE THE CORPS OF ENGINEERS WITH A RIGHT OF ENTRY TO INSPECT DAMS. THE COUNCIL SUGGESTS THAT SUCH A PROVISION SHOULD NOT BE NECESSARY WITHIN A STATE HAVING AN APPROVED PROGRAM.

STATE ASSISTANCE PROGRAM

SECTION 7

SECTION 7 OF S. 671 AUTHORIZES THE APPROPRIATION OF $15 MILLION FOR FISCAL YEARS 1984-1987 FOR APPROVED STATE DAM SAFETY PROGRAMS. THE WESTERN STATES FEEL SUCH ASSISTANCE SHOULD BE PROVIDED ONLY AT THE REQUEST OF A STATE. THIS PROGRAM SHOULD BE STRICTLY VOLUNTARY.

SECTION 8(a)

THE WESTERN STATES WATER COUNCIL STRONGLY OPPOSES THE IMPOSITION OF SPECIFIC TECHNICAL OR OTHER FEDERAL CRITERIA ON STATE PROGRAMS. SUCH A THREAT COULD BE REDUCED BY ALLOWING THE GOVERNOR, IN LIEU OF THE SECRETARY OF ARMY, TO CERTIFY THAT A STATE HAS AN ADEQUATE DAM SAFETY PROGRAM, IF THE GOVERNOR SO CHOOSES. THE ADEQUACY OF ANY STATE PROGRAM WOULD STILL BE SUBJECT TO APPROVAL BY THE FEDERAL DAM SAFETY REVIEW BOARD ESTABLISHED UNDER THIS BILL.

WITH RESPECT TO THE PROPOSED CRITERIA FOR APPROVING A STATE DAM SAFETY PROGRAM, THE COUNCIL SUGGESTS LIMITING THE PROGRAM TO THOSE DAMS SUBJECT TO STATE JURISDICTION. FURTHER, THE COUNCIL FEELS THAT THE REQUIREMENT FOR THE INSPECTION OF EVERY DAM AT LEAST ONCE EVERY TWO YEARS IS UNNECESSARILY RESTRICTIVE AND SHOULD BE CHANGED TO READ "WITH REASONABLE REGULARITY." AGAIN, THE COUNCIL BELIEVES THAT FEDERAL LEGISLATION SHOULD NOT PRESCRIBE IN DETAIL HOW STATES MIGHT BEST CHOOSE TO OPERATE THEIR DAM SAFETY PROGRAMS, INCLUDING THEIR OWN EMERGENCY PROCEDURES UNDER SECTION 8(a)(6). THE COUNCIL AGREES, AS UNDER SECTION 8(a)(7), THAT A STATE SHOULD HAVE AUTHORITY TO REQUIRE REMEDIAL ACTION TO MAINTAIN THE INTEGRITY OF ANY DAM. WITH RESPECT TO SECTION 8(a), THE BILL APPEARS TO IMPLY THAT IN ORDER TO HAVE AN APPROVED PROGRAM A STATE WOULD BE REQUIRED TO MAINTAIN A STANDING FUND FOR FINANCING

THE REPAIR OR REMOVAL OF ANY DAM IN AN EMERGENCY. SUCH A REQUIREMENT WOULD BE REASONABLE IN VIEW OF REGULAR STATE FISCAL AND BUDGETARY PROCEDURES. EACH GOVERNOR HAS ACCESS TO GENERAL EMERGENCY FUNDS WHEN REQUIRED. FURTHER, THE REASON FOR INITIATING SUCH EMERGENCY ACTION SHOULD REMAIN WITHIN THE DISCRETION OF THE STATE AND NOT BE STRICTLY LIMITED TO THE PROTECTION OF HUMAN LIFE AND PROPERTY.

SECTION 8(b)

IN KEEPING WITH THE SUGGESTION THAT A GOVERNOR BE ALLOWED TO CERTIFY THAT A STATE HAS AN ADEQUATE DAM SAFETY PROGRAM, THE COUNCIL URGES AMENDING SECTION 8(b) SO THAT A PROGRAM WOULD BE DEEMED APPROVED PROVIDING THAT THE GOVERNOR OF THE STATE CERTIFIED TO THE SECRETARY THAT THE STATE'S PROGRAM MEETS THE REQUIREMENTS OF SUBSECTION 8(a), OR AS THE BILL NOW PROVIDES, IF SUBMITTED TO THE SECRETARY FOR APPROVAL, 120 DAYS FOLLOWING ITS RECEIPT BY THE SECRETARY, UNLESS THE SECRETARY DETERMINES THAT SUCH A PROGRAM FAILS TO MEET THE REQUIREMENTS OF SECTION 8(a)--IN WHICH CASE HE WOULD IMMEDIATELY NOTIFY SUCH STATE IN WRITING, TOGETHER WITH HIS REASONS AND ANY CHANGES NEEDED IN ORDER TO ENABLE APPROVAL OF SUCH PROGRAM.

SECTION 8(c)

THE COUNCIL SUPPORTS SECTION 8(c), WHICH ALLOWS THE SECRETARY TO REVOKE APPROVAL OF ANY STATE PROGRAM WHICH THE REVIEW BOARD FINDS

INADEQUATE. HOWEVER, WE WOULD REITERATE THAT ANY STATE'S PROGRAM SHOULD BE INITIALLY CERTIFIED BY THE STATE'S GOVERNOR, IF THE GOVERNOR SO CHOOSES, IN LIEU OF THE SECRETARY, AND THAT ONLY THE BOARD MAY SUBSEQUENTLY FIND A STATE PROGRAM TO BE INADEQUATE. THEN, AND ONLY THEN, SHALL THE SECRETARY, IF HE AGREES WITH THE BOARD, REVOKE APPROVAL OF SUCH STATE'S PROGRAM.

SECTION 9

THE WESTERN STATES WATER COUNCIL STRONGLY AGREES WITH THE NEED ADDRESSED UNDER SECTION 9 TO PROVIDE LIABILITY INSURANCE AT REASONABLE RATES. THE COUNCIL SUPPORTS THE CONDITION THAT SUCH A GUARANTEE BE AVAILABLE ONLY IN STATES WITH APPROVED PROGRAMS, GIVEN THE CHANGES WHICH WE ARE SUGGESTING.

SECTION 10

THE COUNCIL ALSO STRONGLY SUPPORTS A REVOLVING FUND FOR THE REPAIR OR REPLACEMENT OF UNSAFE DAMS. WHILE SAFETY RELATED PROBLEMS HAVE BEEN IDENTIFIED AT NUMEROUS DAMS, DAM OWNERS ARE OFTEN RELUCTANT TO ACCEPT RECOMMENDED REMEDIAL MEASURES IN PART DUE TO A LACK OF FINANCING ALTERNATIVES. THE PROPOSED REVOLVING FUND WOULD FINANCE REPAIR OR REPLACEMENT OF ANY DAM REQUIRED UNDER AN APPROVED SAFETY PROGRAM IF THE OWNER COULD DEMONSTRATE TO THE SECRETARY THAT OTHER FUNDS ARE NOT REASONABLY AVAILABLE. HOWEVER, A $20 MILLION AUTHORIZATION WOULD BE INADEQUATE. FOR EXAMPLE, THE STATE OF COLORADO ALONE HAS ESTIMATED THAT NECESSARY SAFETY IMPROVEMENTS

TO THE FIFTEEN MOST HAZARDOUS DAMS IN THE STATE WOULD REQUIRE SOME $40 MILLION. A MORE REALISTIC AUTHORIZATION UNDER SECTION 10, TO ADEQUATELY MEET CURRENT NEEDS, WOULD PROBABLY BE CLOSER TO $500 MILLION.

SECTION 11

SECTION 11 ESTABLISHES A FEDERAL DAM SAFETY REVIEW BOARD, AND THE COUNCIL SUGGESTS THAT IT BE RECONSTRUCTED TO PROVIDE MORE FLEXIBILITY AND STATE REPRESENTATION. THE BOARD SHOULD CONSIST OF NINE MEMBERS SELECTED BY THE PRESIDENT FOR THEIR EXPERTISE IN DAM SAFETY, WITH AT LEAST FIVE MEMBERS OF THE BOARD EMPLOYED BY STATES HAVING AN APPROVED PROGRAM. FURTHER, THE COUNCIL BELIEVES THAT THE FEDERAL CONSTRUCTION AGENCIES CURRENTLY HAVE ADEQUATE PROGRAMS FOR ANALYZING AND REVIEWING THE SAFETY OF DAMS AUTHORIZED BY CONGRESS, AND CONSTRUCTED AND OPERATED UNDER AUTHORITY OF THE UNITED STATES. TRANSFERRING SUCH AUTHORITY TO THE BOARD WOULD APPEAR DUPLICATIVE AND UNNECESSARY. RATHER, THE PROPER ROLE OF THE BOARD SHOULD BE SOLELY TO MONITOR STATE IMPLEMENTATION OF THE REQUIREMENTS OF THE ACT.

SECTION 12

THE WESTERN STATES WATER COUNCIL STRONGLY FEELS THAT FEDERAL DAMS IN ANY STATE WITH AN APPROVED DAM SAFETY PROGRAM SHOULD BE SUBJECT TO THE JURISDICTION OF THAT STATE. SECTION 12 SHOULD THEREFORE BE AMENDED TO STATE THAT ANY AGENCY SHALL COMPLY WITH ALL THE REQUIREMENTS OF AN APPROVED STATE DAM SAFETY PROGRAM.

SECTION 13

SECTION 13 PROVIDES FOR THE TRAINING OF STATE DAM SAFETY INSPECTORS. IT IS UNNECESSARILY RESTRICTIVE. IT SHOULD ALLOW, FOR EXAMPLE, FOR THE TRAINING OF ADMINISTRATIVE PERSONNEL.

REPEATED DAM FAILURES CONTINUE TO RAISE CONCERN OVER DAM SAFETY THROUGHOUT THE COUNTRY. THE UNUSUALLY HIGH RUNOFF AND FLOODING THIS YEAR IN MANY WESTERN STATES IS CREATING SOME SAFETY PROBLEMS. FORTUNATELY, THOUGH THERE HAVE BEEN SOME NON-FEDERAL DAM FAILURES, THEY HAVE HAD RELATIVELY MINOR CONSEQUENCES. IN GENERAL, NO SERIOUS PROBLEMS HAVE ARISEN, BUT TO QUOTE ONE STATE DAM SAFETY OFFICIAL: "WHO KNOWS WHAT TOMORROW WILL BRING." IN SPEAKING TO THIS BILL, SENATOR MC CLURE RECENTLY STATED THAT "IT IS IRRESPONSIBLE...TO WAIT FOR ANOTHER DAM TRAGEDY BEFORE ATTENTION IS FOCUSED ON THIS CRITICAL PROBLEM." REPRESENTING THE WESTERN STATES WATER COUNCIL I'D LIKE TO EXPRESS OUR WILLINGNESS TO WORK WITH THE SUBCOMMITTEE AND CONGRESS IN ADDRESSING THIS IMPORTANT PROBLEM. HOPEFULLY THE RECOMMENDATIONS WHICH I HAVE OUTLINED WILL BE USEFUL.

FEDERAL DAMS

VERY BRIEFLY MR. CHAIRMAN THOUGH NON-FEDERAL DAMS ARE BY FAR THE MAJORITY IN THE NATION, THERE ARE MANY IMPORTANT FEDERAL DAMS AND RELATED DAM SAFETY PROBLEMS. THE BUREAU OF RECLAMATION HAS IDENTIFIED MANY OF ITS DAMS WHICH DO NOT MEET MODERN SAFETY REQUIREMENTS. THOUGH NOT WITHIN THE JURISDICTION OF THIS SUBCOMMITTEE, I WOULD LIKE TO EXPRESS THE COUNCIL'S SUPPORT FOR S.672 TO INCREASE THE AUTHORIZED LEVEL OF SPENDING TO MODIFY OR REPLACE UNSAFE FEDERAL DAMS UNDER THE RECLAMATION SAFETY OF DAMS ACT AT FULL FEDERAL EXPENSE.

COST SHARING

ALSO, MR. CHAIRMAN, IF I MAY, I WOULD LIKE TO BRIEFLY ADDRESS ANOTHER IMPORTANT ISSUE BEFORE THIS SUBCOMMITTEE--THAT OF COST SHARING.

IN THE FACE OF GROWING WATER RESOURCE DEVELOPMENT NEEDS AND SEVERE FEDERAL BUDGETARY CONSTRAINTS, SOME HAVE SUGGESTED THAT NEW REQUIREMENTS FOR NON-FEDERAL FINANCING SHOULD BE IMPOSED AS A CONDITION OF OBTAINING FUTURE FEDERAL FUNDING. THE WESTERN STATES WATER COUNCIL HAS SERIOUS AND SUBSTANTIAL RESERVATIONS ABOUT THE PRACTICALITY AND FAIRNESS OF SUCH PROPOSALS. ON THE OTHER HAND, THE PRESENT HIATUS OVER NEW FEDERAL WATER PROJECT STARTS MUST BE RESOLVED.

THE ISSUE OF NON-FEDERAL FINANCING OF PROJECTS HERETOFORE FUNDED BY CONGRESS MERITS CAREFUL CONSIDERATION. THE STATES, THE CONGRESS, THE ADMINISTRATION, AND OTHER INTERESTED PARTIES SHOULD ALL BE INVOLVED IN DETERMINING NEW NON-FEDERAL FINANCING REQUIREMENTS. THE WESTERN STATES WATER COUNCIL BELIEVES THAT ANY NEW POLICIES SHOULD BE FOUNDED UPON CERTAIN BASIC PRINCIPLES WHICH I WOULD LIKE TO MENTION.

PRINCIPLES

1. ANY NEW POLICY SHOULD BE REASONABLY CONSISTENT ACROSS FEDERAL AGENCY PROGRAMS AND PROJECTS WITH SIMILAR PURPOSES.
2. ANY NEW FINANCING MECHANISMS OR REQUIREMENTS MUST TAKE INTO ACCOUNT THE FINANCIAL RESOURCES AND INSTITUTIONAL ARRANGEMENTS AVAILABLE TO NON-FEDERAL ENTITIES.
3. NEW POLICIES SHOULD NOT APPLY TO CURRENTLY AUTHORIZED PROJECTS.
4. ANY POLICY CHANGES MUST RECOGNIZE AND FAIRLY CONSIDER PAST FEDERAL COMMITMENTS.
5. FEDERAL WATER PROJECT FUNDING MUST BE TIMELY AND CONSISTENT OVER TIME IN ORDER TO INSURE THAT ADEQUATE FUNDING WILL BE AVAILABLE TO FACILITATE PROMPT INITIATION AND COMPLETION OF CONSTRUCTION.

6. CONSIDERATION OF INCREASES IN NON-FEDERAL FINANCING SHOULD BE LIMITED TO PROJECT PURPOSES WHICH PRODUCE VENDIBLE PRIVATE GOODS AND THAT HAVE IDENTIFIABLE BENEFICIARIES.
7. PROJECT REVENUES MUST BE RETURNED TO NON-FEDERAL INTERESTS IN PROPORTION TO THE FINANCING WHICH SUCH INTERESTS PROVIDE FOR THE PROJECT PURPOSE GENERATING THE REVENUE.
8. THE ADMINISTRATION AND CONGRESS SHOULD ENCOURAGE NON-FEDERAL CAPITAL FORMATION BY PROVIDING INCENTIVES SUCH AS REMOVING RESTRICTIONS ON THE USE OF TAX EXEMPT MUNICIPAL BONDS, AND ESTABLISHMENT OF A FEDERAL BOND GUARANTEE OR INSURANCE FUND.

MR. CHAIRMAN I THANK YOU FOR THE OPPORTUNITY OF PRESENTING TO THE SUBCOMMITTEE SOME OF THE THOUGHTS OF THE WESTERN STATES WATER COUNCIL ON IMPORTANT POLICY ISSUES. I WOULD BE HAPPY TO RESPOND TO ANY QUESTIONS.

POSITION of the WESTERN STATES WATER COUNCIL concerning DAM SAFETY LEGISLATION

July 31, 1981

The Western States Water Council has in the past actively reviewed and commented on dam safety legislation which would define the appropriate role of the federal government. All of the Western States have for many years had ongoing dam safety programs. Collectively, the Western States do not strongly support federal dam safety legislation, and agree that federal initiatives should not usurp states' rights, responsibilities, and prerogatives in this area. However, the introduction of S.761 in the 97th Congress, to authorize a federal program to encourage dam safety, has prompted our response.

The Western States Water Council supports many of the concepts found in S.761. However, when considered by the 97th Congress the Council urges the bill be amended as follows:

SIZE OF DAMS

The bill would amend P.L. 92-367 by deleting the final sentence of Section 1, which reads: "This Act does not apply to any such barrier which is not in excess of 6 feet in height, regardless of storage capacity or which has a storage capacity of maximum water storage elevation not in excess of 15 acre feet, regardless of height." Such an explicit limitation as to the definition of a dam is both necessary and desirable. We oppose the proposed change and urge that lines 5 and 6 on page 1 be deleted from the bill.

RIGHT OF ENTRY

Providing the Corps with the proposed right-of-entry should not be necessary within a state having an approved program. This section should be amended by inserting on page 2, line 6 immediately after the word "Act", the following: "in states that do not have an approved program under Section 8 of this Act,".

STATE ASSISTANCE PROGRAM

SECTION 7

The Western States feel assistance should be provided only if requested by a State. Section 7 should therefore be amended on page 3, line 22 after the word "States" by inserting the following: "requesting such assistance"; and on page 3, line 23 by striking the word "those", replacing it with the word "such", and after the word "States" by inserting the following: "requesting assistance". The words "requesting assistance" should also be inserted following the word "State" on page 4 in lines 1 and 3. Lastly, a similar change should be made in Section 8(a) on page 4, line 11 after the word "that" by inserting the following: "requests such assistance and".

SECTION 8(a)

The Western States Water Council strongly opposes the imposition of specific technical or other federal criteria on state programs. The threat of such action can be relieved by providing that the Governor, in lieu of the Secretary of Army, may certify that a State has an adequate dam safety program, if the Governor so chooses. Section 8 should therefore be amended on page 4, line 14 by striking the word "Secretary" and inserting the following: "Governor or the Secretary, if the Governor so chooses,".

Under Section 8(a)(1) the review of construction plans for any dam should be restricted to dams within a state's jurisdiction by inserting on page 4, line 17 after the word "dam" the following: "subject to State jurisdiction".

In Section 8(a)(2) an apparent error on page 4, line 22 should be corrected by striking the word "conducted" and inserting the word "constructed".

The Western States also feel the requirement under Section 8(a)(3) for the inspection of every dam at least once every 2 years is unnecessarily restrictive and should be changed. On page 4, line 24 after the word "dam", the words "subject to State jurisdiction" should be inserted, and on line 25 after the word "State", the words "at least once every two years" should be deleted and the following inserted: "with reasonable regularity". This change eliminates the need for Section 8(a)(4) which should be removed by deleting lines 1 and 2 on page 5, and by renumbering the subsequent paragraphs accordingly.

Again, the Western States Water Council feels federal legislation should not prescribe in detail how States might best choose to operate their dam safety programs. Section 8(a)(6) of the current bill should therefore be amended on page 5, line 10 by placing the semicolon following the word "imminent" and by deleting the remainder of line 10 thru line 15.

Section 8(a)(7) should be amended on page 5, line 17 by deleting the word "assure" and inserting the word "require".

Section 8(a)(8) appears to imply that in order to have an approved program a State would be required to maintain a standing fund for financing the repair or removal of any dam in an emergency. Such a requirement is unreasonable in view of States' regular fiscal and budgetary procedures. Further, each Governor has access to general emergency funds when required. Therefore, the subsection should be amended on page 5, line 22 by deleting the words "and necessary funds to make" and inserting the following: "in an emergency to require". Further, in lines 23 and 24, delete the words "in order to protect human life and property". The reason for initiating emergency action should remain within the discretion of the State.

SECTION 8(b)

In keeping with the suggestion that a Governor be allowed to certify that the State has an adequate dam safety program, the Western States Water Council urges that Section 8(b), page 6, lines 3 through 11 be amended to read as follows:

(b) Any program which is submitted under the authority of this section shall be deemed approved providing:

(1) The Governor of the State certifies to the Secretary that the State's program meets the requirements of subsection 8(a), or

(2) If submitted to the Secretary for approval, 120 days following its receipt by the Secretary, unless the Secretary determines that such program fails to reasonably meet the requirements of subsection (a) of this section. If the Secretary determines that any program submitted under Section 8(b)(2) cannot be approved, he shall immediately notify such State in writing, together with his reasons and those changes needed to enable such plan to be approved.

SECTION 8(c)

Subsection 8(c), in view of the prior amendments to subsection 8(b), is supported by the Western States. However, it should be clarified for the record that congressional intent is that any State's program may be approved by the Governor, if the Governor so chooses, in lieu of the Secretary, and that only the Board may subsequently find a State program to be inadequate. Only then shall the Secretary, if he agrees with the Board, revoke approval of such State's program.

SECTION 9

The Western States Water Council strongly agrees with the need, addressed under Section 9, to provide liability insurance at reasonable rates. The Council supports the condition imposed by Section 9(b) only in concert with the suggested changes, as to a Governor's certification of an approved State program.

SECTION 10

The Western States strongly support the proposed revolving fund for the repair or replacement of unsafe dams. However, the $20 million authorized to be appropriated is deemed grossly inadequate. The State of Colorado alone has estimated that necessary safety improvements to the 15 most hazardous dams in the State would require $40 million. The Western States therefore urge that Section 10 be amended on page 8, line 7 by sriking the sum of "$20,000,000" and inserting the sum of "$500,000,000".

SECTION 11

With respect to the Federal Dam Safety Review Board, the Western States believe the federal construction agencies currently have adequate programs for analyzing and reviewing the safety of dams authorized by the Congress, and constructed and operated under authority of the United States. Trasferring such authority to the Board would be duplicative and unnessary. Rather, the proper role of the Board should be solely to monitor state implementation of the requirements of the Act. The Western States therefore urge that Section 11(a) be amended on page 8, line 19 by deleting everything following the comma, through the word "and" on line 22. Further, on page 8, lines 24 and 25 should be deleted. as well as lines 1 through 3 on page 9 and the words "is authorized" on line 4.

The Western States also feel the Board should be reconstructed under subsection 11(b) to provide more flexibility and state representation by deleting on page 9, line 10, the words "including one representative" as well as all of lines 11 and 12, and line 13 through the second comma. In addition, line 14 should be changed by removing the comma following the word "basis", inserting a period, and deleting the remainder of the line, as well as line 15 through the period. Lastly, on line 15, the word "two" should be deleted and replaced with the word "five".

SECTION 12

The Western States Water Council strongly feels that federal dams should be subject to the jurisdiction of States with approved dam safety programs. Therefore, Section 12 should be amended on page 9, line 22, by deleting everything after the word "shall" through line 25, and inserting the following: "comply with all requirements of an approved State dam safety program".

SECTION 13

The restriction of training to only state dam safety inspectors is unnecessarily restrictive and should allow, for example, for the inclusion of administrative personnel. Section 13 should therefore be amended on page 10, line 4 by deleting the word "inspectors" and inserting the word "personnel".

Again, the Western States Water Council urges the 97th Congress to make the above suggested amendments when considering S.761.

POSITION
# of the
WESTERN STATES WATER COUNCIL
Regarding
FEDERAL WATER PROJECT COST SHARING (Financing and Repayment)
April 22, 1983

INTRODUCTION

The development and management of our Nation's water resources contribute significantly to our social, economic and environmental well being. Investments in water resource development projects and programs have produced diverse and widespread benefits. These benefits include increased employment, national and regional economic development, adequate and safe drinking water supplies, increased agricultural productivity, facilitating important energy development, providing clean and renewable hydropower, transportation diversification, soil and water conservation, flood control, water quality improvement, fish and wildlife enhancement, and recreational opportunities.

Annually, government and private entities spend billions of dollars on the capital cost of water resource development. Non-federal interests already finance the greatest share of these expenditures (approximately 74%). The only comprehensive study of historic expenditures estimated a total national capital outlay through about 1970 of $338 billion. The estimated state and local financing share was 57%, with the federal government financing 26% and private entities 17% (National Water Commission).

Non-federal entities finance the largest share of water resources development, and incur substantial repayment obligations for federally financed projects. For example, non-federal sponsors of federal municipal, industrial, and hydropower development projects are required to repay 100% of the capital and operation and maintenance (O&M) costs allocable to those purposes. Capital and O&M costs associated with irrigation development are being repaid largely without interest.

DISCUSSION

There are certain circumstances in which the federal government has been the most logical source of financing for water resources development. These include situations in which a project, or a series of related projects, creates widespread benefits distributed among several states, provides a good or service available to the public-at-large, meets constitutional or statutory obligations of the national government, serves national purposes in addition to the direct benefits generated, or contributes to the equitable sharing of development opportunities among states within a single river basin. Finally, it has been prudent for the federal government to finance the development of project purposes ancillary to the central federal purpose involved (i.e., multi-purpose project development) in order to maximize the utilization of the Nation's water resources.

These continue to be valid reasons for the federal financing of water resources development. Moreover, the need for projects which fall within these circumstances will grow in the years ahead in the face of continued population growth, energy development, Indian water development issues, sustenance of the Nation's agricultural base, and the maintenance and replacement of existing federal projects. Historical federal commitments to multi-state river basin development plans must also be honored and completed in a timely and equitable manner.

In the face of these growing needs, federal budgetary constraints and inflation have prevented federal investments from keeping pace with funding requirements for construction of on-going and new projects. The result has been a decline in the real dollars available for water resource development, a slowed pace of construction on projects underway, and no new starts for several years.

In the face of these problems, some have suggested that new requirements for non-federal financing should be imposed as a condition of obtaining further federal funding for water resources development. The Western States Water Council has serious and substantial reservations about the practicability and fairness of such proposals. On the other hand, the present hiatus over new federal project starts must be resolved.

The issue of non-federal financing of projects heretofore funded by Congress merits careful consideration. The States, the Congress, the Administration, and other interested parties should all be involved in determining whether there is a necessity for new non-federal financing requirements. The WSWC believes that such determinations should be founded upon certain basic principles, as outlined below.

PRINCIPLES

1. Any new policy should be reasonably consistent across federal agency programs and projects with similar purposes.
2. Any new financing mechanisms or requirements must take into account the financial resources and institutional arrangements available to non-federal entities.

3. New policies should not apply to currently authorized projects.

4. Any policy changes must recognize and fairly consider past federal commitments.

5. Federal water project funding must be timely and consistent over time in order to insure that adequate funding will be available to facilitate prompt initiation and completion of construction.

6. Consideration of increases in non-federal financing should be limited to project purposes which produce vendible private goods and that have identifiable beneficiaries.

7. Project revenues must be returned to non-federal interests in proportion to the financing which such interests provide for the project purpose generating the revenue.

8. The Administration and Congress should encourage non-federal capital formation by providing incentives such as removing restrictions on the use of tax exempt municipal bonds, and establishment of a federal bond guarantee or insurance fund.

USCOLD
UNITED STATES COMMITTEE ON LARGE DAMS
OF THE
INTERNATIONAL COMMISSION ON LARGE DAMS
c/o AMERICAN ASSOCIATION OF ENGINEERING SOCIETIES
345 EAST 47th STREET, NEW YORK, N.Y. 10017
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July 20, 1983

Please reply to:
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Honorable James Abdnor
Chairman, Subcommittee on Water Resources
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

Thank you for your letter of June 27, 1983, inviting the U.S. Committee on Large Dams to submit testimony on dam safety. We welcome the opportunity to make this statement and trust that we have addressed the issues pertinent to your deliberations.

My statement for the record is enclosed.

If you find that you would wish to pursue some aspects in more detail, please do not hesitate to contact me.

Sincerely,

SIGNED

Lloyd A. Duscha, P.E.
Chairman, USCOLD

CF: Mr. Strassburger

STATEMENT FOR THE RECORD

BY

LLOYD A. DUSCHA

CHAIRMAN, U.S. COMMITTEE ON LARGE DAMS

FOR THE

SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

FIRST SESSION, 98TH CONGRESS

S. 671, "DAM SAFETY ACT OF 1983"

STATEMENT FOR THE RECORD
BY
LLOYD A. DUSCHA
CHAIRMAN, U.S. COMMITTEE ON LARGE DAMS

Introduction

The U.S. Committee on Large Dams wishes to thank the Subcommittee on Water Resources for holding this hearing which addresses a topic as vital and immediate to our Nation as dam safety.

The U.S. Committee on Large Dams, commonly referred to as USCOLD, is a part of the International Commission on Large Dams. The USCOLD membership numbers about 1,350 individuals representing the private engineering sector, all levels of government and academe. The objective of the organization is to encourage improvements in the design, construction, maintenance, and operation of large dams.

Although our title contains the term large dams, which by definition of the International Commission are those over 50 feet high, the issue of dam safety is applicable to all dams. In fact, concern about the safety of small dams is every bit as vital, if not more so, than that for large dams. This rationale stems from two factors: (1) the greater preponderance of small dams, and (2) that small dams tend to have a lesser degree of design and construction attention. In fact, at the last annual meeting of USCOLD in May 1983, it was decided to ignore the limitation in our charter for matters of dam safety. Also, the Committee on Dam Safety for the International Commission on Large Dams, which I chair, is concerned that the area of greatest need may be neglected by limiting considerations to only large dams.

The impoundment of water by a dam introduces elements of risk affecting the lives and property of all who might be affected by failure. Often these persons do not receive any benefits from the impoundments and do not recognize the risks. As possible damages from future dam failures are speculative, the individuals jeopardized have no legal recourse prior to actually suffering damages.

The concerns for dam safety are real and warrant the attention of everyone. Unfortunately, we face a situation where the proper degree of attention is not being given in all instances. Sooner or later, another catastrophe will strike unless efforts toward addressing dam safety are amplified.

Resolution

The U.S. Committee on Large Dams adopted a resolution concerning safety of dams in the United States. A copy is attached. Basically, the resolution resolved that: (1) the results of PL 92-367 inspections show conclusively that the United States has a large number of dams that do not meet current minimum acceptable safety criteria and which threaten the lives and property of citizens, (2) that each State government should give high priority to enacting legislation and allocating resources adequate for it to supervise dam safety for the protection of its citizens, and (3) that, in light of the national interest in averting disastrous dam failures, the Federal Government may have to provide assistance to the States in developing their capabilities to supervise dam safety. In connection with the latter, the U.S. Committee on Large Dams developed a "Model Law for State Supervision of Safety of Dams and Reservoirs" in 1970 which a number of states have used in enacting safety legislation. This Model Law calls for essentially the same type of State supervision that S. 671 contemplates.

PL 92-367 Inspection Results

Public Law 92-367 enacted a National Program of Inspection of non-Federal Dams. Although enacted in 1972, funds to start an inspection program were not made available until December 1977. At that time, the U.S. Army Corps of Engineers embarked on an accelerated inspection program for inspecting those dams so located that their failure may cause loss of lives or extensive property damage. By completion of this inspection program in September 1981, the Corps of Engineers had inspected 8,818 dams with 2,925 dams initially being rated as unsafe (i.e., either requiring structural modifications to remove evident unsafe conditions or more detailed analyses of conditions found during the inspection). The vast majority of unsafe conditions reflected inadequate spillway capacity.

Throughout this program, the theme stressed was that the State is responsible for the welfare of its citizens and that the dam owner is legally responsible for damages resulting from a dam failure.

An assessment of the program after completion of the Corps' inspection role indicated that, although progress had been made in State dam safety the latter, the U.S. Committee on Large Dams developed a "Model Law for State Supervision of Safety of Dams and Reservoirs" in 1970 which a number of states have used in enacting safety legislation. This Model Law calls for essentially the same type of State supervision that S. 671 contemplates.

PL 92-367 Inspection Results

Public Law 92-367 enacted a National Program of Inspection of non-Federal Dams. Although enacted in 1972, funds to start an inspection program were not made available until December 1977. At that time, the U.S. Army Corps of Engineers embarked on an accelerated inspection program for inspecting those dams so located that their failure may cause loss of lives or extensive property damage. By completion of this inspection program in September 1981, the Corps of Engineers had inspected 8,818 dams with 2,925 dams initially being rated as unsafe (i.e., either requiring structural modifications to remove evident unsafe conditions or more detailed analyses of conditions found during the inspection). The vast majority of unsafe conditions reflected inadequate spillway capacity.

Throughout this program, the theme stressed was that the State is responsible for the welfare of its citizens and that the dam owner is legally responsible for damages resulting from a dam failure.

An assessment of the program after completion of the Corps' inspection role indicated that, although progress had been made in State dam safety programs, there also was a lingering question as to whether these programs would retrogress without Federal funding. At the end of the program, 39 States had enacted effective dam safety legislation, 28 States had adequate technical staffing, but only 18 States were providing adequate funding. From this, one can see that this Nation still faces problems in the dam safety area and that the problem requires continual attention. With the end of the Federally-financed inspection program, there are indications that the capabilities of many States to protect the public from unsafe dams may be reduced.

Aims of S.671

I do not believe that anyone can argue with the purposes of S.671. The Bill should be given careful consideration for several reasons:

1. It recognizes that a national problem in dam safety does exist.
2. It recognizes that the individual States have prime responsibility for the protection of their citizens.
3. It recognizes that there is a national interest in avoiding catastrophic dam failures.
4. It recognizes a means for the Federal Government to aid the States until each State can effectively manage its own dam safety program.

Specific Provisions of S.671

To better understand the position of USCOLD, it appears useful to comment on the individual sections of S. 671. These comments are primarily technical and premised on a bill being enacted.

Size of Dams (Modification). Removing the minimum size limit would drastically expand the inventory of dams to include very small dams and the cost would be disproportionate to the potential benefits. There are over 68,000 larger dams in the inventory already; proper attention to these alone will tax the resources of the Nation.

Right-of-Entry (Modification). The amendments to exempt dams located in a State having an approved dam safety program and to provide rights-of-entry are desirable.

Contractor Liability (Modification). During the implementation of the National Inspection of Dams program, some contractors were reluctant to undertake inspections because of potential liability. This is understandable as the magnitude of the potential liability is many times the size of the fee. This is a desirable amendment.

Section 7 (New). Administering a grant program is inconsistent with the mission of the Corps of Engineers, however, its depth of experience in engineering for dams and the liaison developed during the inspection program for non-Federal dams would qualify it to act as the technical agent for the administration. As many states are having difficulty in funding adequate dam safety programs, a grant program may be necessary. The grants should tend to reward States which develop adequate programs and also recognize the magnitude of the problem. As a suggestion, it may be desirable to consider making use of existing non-designated grants available to the States.

Section 8 (New). The procedures and criteria cited for qualifying for grants are adequate and practicable. As there are existing Federal agencies qualified to perform the duties of the Board, it does not seem prudent to establish another organization.

Section 9 (New). As an analysis of the effects of reinsurance is required by the Act, it would seem that this issue should be studied prior to enactment. As the contemplated reinsurance program would parallel the flood insurance program being administered by the Federal Emergency Management Agency, consideration should be given to making that agency responsible for the program instead of the Secretary of the Army.

Section 10 (New). As dam owners are having problems in financing needed dam repairs, some type of Federal assistance to public and quasi-public agencies may be necessary. However, the $20,000,000 revolving fund cited would not go very far in meeting needs. As agencies other than Army administer loans, it may be preferable to combine such a program with an existing Federal loan program.

Section 11 (New). This section addresses both Federal and non-Federal dams. As S. 671 amends an Act pertaining to non-Federal dams, the inclusion of Federal dams in some sections will be confusing. Further, some of the functions relating to Federal dams proposed for the Safety Review Board already are assigned to the Federal Emergency Management Agency. This agency provides oversight for dam safety activities of Federal agencies. Also, it appears that the function of monitoring State implementation proposed for the Board would seriously overlap the responsibilities in Section 8 assigned to The Secretary of the Army. Establishing a new independent Federal Board does not seem necessary; existing Federal agencies could provide this function.

Section 12 (New). This section in itself is not objectionable and is practiced in many states. It does, however, incorporate a Federal dam aspect into a non-Federal dam Act.

Section 13 (New). A considerable amount of training of State employees has taken place. Extension of such training may be desirable.

Section 14 (New). Additional research systematically directed to the problems of inspection and monitoring is needed. Several Federal agencies have some such research underway. The National Bureau of Standards has no special background in this area. It is therefore suggested that the Section be revised to have The Secretary of the Army cooperate with other Federal agencies rather than the National Bureau of Standards.

Section 15 (New). Maintenance of the National Inventory of Dams is certainly needed for an effective dam safety program. The original inventory, published in 1980, is losing much of its effectiveness because of lack of maintenance.

Reporting of Dam Safety (Modification). This action concerns Federal dams, but is being addressed in an Act pertaining to non-Federal dams. If such an article is to be effective, however, it should pertain to all Federal agencies, not just two. While there can be no objection to the principle of the requirement, it should be recognized that project planning is not far enough advanced at the time an authorization report is submitted to provide the definitive information cited. Also, the possibility of failure due to geologic or design factors is impossible to assess with any quantitative precision and can promote misleading confidence.

Conclusion

In conclusion, I wish to emphasize that dam safety is a real problem in the United States and that much remedial work remains on those dams already inspected. Unless the dam safety program is revitalized in some manner, the continuance of inspections could subside with time and the number of dams with unknown deficiencies will increase. Federal financing of new programs in an era of constrained budgets is a dilemma. However, the need for dam safety is great and it is believed some States still need assistance. Making any aid effective is a challenge. To gain maximum participation from the States, a shared funding effort appears appropriate.

We can make the Nation's dams much safer and we should continue to seek ways to do so. This is not a matter of developing innovative technological approaches, but a matter of continual attention in the design, construction, and operational phases of each project.

The U.S. Committee on Large Dams thanks this Committee for the opportunity to contribute this statement.

A Resolution Concerning
SAFETY OF DAMS IN THE UNITED STATES

by the
Executive Committee
of
UNITED STATES COMMITTEE ON LARGE DAMS (USCOLD)
of the
INTERNATIONAL COMMISSION ON LARGE DAMS

Preface

The resolution set forth below recognizes the following circumstances:

- In the past several decades, the United States has experienced a number of catastrophic dam failures with large losses of life and property.
- Full appreciation of many types of dangers to the safety of dams* requires specialized training and experience; consequently, USCOLD has a continuing obligation to inform the public and those governmental authorities concerned with public safety of actions needed to protect the public from unsafe dams.
- In the United States, prime responsibility for regulation of non-Federal dams in the interest of public safety rests with the respective States.
- USCOLD has promulgated a "Model Law for State Supervision of Safety of Dams and Reservoirs," which suggests each State accomplish the following functions:
    - (1) Review and approve plans and specifications for new dams or modifications of dams.
    - (2) Require certification by the responsible state engineer that a dam has been constructed or modified in accord with approved plans and specifications.

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* Throughout this paper, the term "Dam" is intended to include the major appurtenant feature of a dam, which include spillway, outlet works, and foundation, and it should be recognized that the safety of a dam project is dependent on the adequacy of its appurtenant structures as well as on the stability of the dam itself.

(3) Issue certificates of approval containing terms and conditions for safely impounding water behind dams.

(4) Inspect dams during construction and periodically inspect all completed dams.

(5) Require dam owners to repair or remove dams that are found to be unsafe.

- Some States have not enacted legislation regarding dam safety; others have enacted legislation including all or part of the provisions of the USCOLD Model Law.
- Public Law 92-367 (approved August 8, 1972) directed that the Secretary of the Army, acting through the Chief of Engineers, carry out a national program of dam inspection for the purpose of protecting human life and property.
- Under this program approximately 8,800 non-Federal dams (so located that their failure may cause loss of lives or excessive property damage) were inspected by September 30, 1981, the scheduled end of the inspection program.
- These inspections resulted in approximately one-third of the dams initially being rated as "unsafe" (i.e., either requiring structural modifications to remove evident unsafe conditions or more detailed engineering analyses of conditions found during the inspections that cast doubts on the dams' safety).**
- Prior to the inspection activity authorized by PL 92-367, only a few States had adequate resources committed to supervision of dam safety, but, as a result of funding provided through the program, many States have been able to significantly increase their capabilities to supervise dams in the interest of public safety.

** In the great majority of these cases, the stability of the dams themselves has not been questioned, but their spillways are too small to pass estimated maximum floods. Many of the older dams require modifications to meet current minimum acceptable safety criteria, generally as a result of the increase in hydrologic knowledge relating to determination of spillway capacity requirements that has developed since the dams were constructed.

- With the end of the Federally-financed inspection program, there are indications that the capabilities of many States to protect the public from unsafe dams may be reduced.

NOW THEREFORE THE EXECUTIVE COMMITTEE RESOLVES AS FOLLOWS:

- That results of PL 92-367 inspections show conclusively that the United States has (a serious national problem in the existence of) a large number of dams that do not meet current minimum acceptable safety criteria and which threaten the lives and property of our citizens.
- That each State government should give high priority to enacting legislation and allocating resources adequate for it to supervise dam safety for the protection of its citizens.
- That, in light of the national interest in averting disastrous dam failures, the Federal Government should provide assistance to the States in developing their capabilities to supervise dam safety.
- That USCOLD will continue to assist in bringing the national problem of the safety of dams to the attention of the public and of appropriate Federal and State authorities.

To further the effective participation of USCOLD in moves to enhance State capabilities to supervise dam safety, the Chairman of the Executive Committee is hereby authorized and requested to make the contents of this resolution known to appropriate State and Federal authorities and to seek the cooperation of other technical societies and groups in this effort.

JANUARY 1982

97TH CONGRESS
1ST SESSION

S. 761

To authorize a national program to encourage dam safety.

IN THE SENATE OF THE UNITED STATES

MARCH 23 (legislative day, FEBRUARY 16), 1981

Mr. MCCLURE introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

---

A BILL

To authorize a national program to encourage dam safety.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That Public Law 92-367 (86 Stat. 506) is amended as follows:

~~(a) SIZE OF DAMS.--Section 1 is amended by deleting the final sentence.~~

(b) RIGHT OF ENTRY.--Section 2 is amended (a) by inserting "(a)" immediately after the words "the Chief of Engineers shall carry out a national program of inspection of dams for the purpose of protecting human life and property.", and by striking and "and" after "inspection" and striking the period after "property" and inserting the following: "and (5) dams located within a State having an approved program under section 8 of this Act." and (b) by adding at the end thereof the following new subsections:

"(b) In order to carry out the purposes of this Act, *in states that do not have an approved program under Section 8 of this Act,"* the Secretary, or his authorized representative, upon presenting appropriate credentials to the owner, operator, or agent in charge is authorized----

"(1) to enter without delay and at reasonable times any damsite, structure, appurtenance, or any work area, or other area used in connection with operation of the dam; and

"(2) to inspect and investigate during regular working hours and at other reasonable times, and within reasonable limits and in a reasonable manner, any such damsite and all pertinent conditions, structures, machinery, apparatus, devices, equipment, and materials therein or thereon; and to require any owner, operator, agent or employee, or designer, contractor or builder, to provide information regarding the design, construction, operation, and maintenance of the same; and to have access to any records, blueprints, plans, or other pertinent documents pertaining to the design, construction, operation, and maintenance of the same.

"(c) Except as to cases the court considers of greater importance, any judicial proceedings involving this Act before a district court of the United States, and appeals therefrom, take precedence on the docket over all cases and shall be assigned for hearing and trial or for argument at the earliest practicable date and expedited in every way.".

(c) CONTRACTOR LIABILITY. -- Section 6 is amended by inserting a new paragraph (2) as follows, and by renumbering paragraph (2) as paragraph (3):

"(2) to create any liability for agents or contractors for damages caused by such action or failure to act in excess of the amount of the contract entered into pursuant to the Act;".

(d) STATE ASSISTANCE PROGRAM -- Following section 6, add the following new sections:

"SEC. 7. There is authorized to be appropriated to the Secretary of the Army, acting through the Chief of Engineers (hereafter in this Act referred to as the 'Secretary'), $15,000,000 for each of the fiscal years ending September 30, 1982, September 30, 1983, September 30, 1984, and September 30, 1985. Sums appropriated under this section shall be distributed annually among those States *requesting such assistance* on the following basis: One-third equally among ~~those~~ *such* States *requesting assistance* that have established dam safety programs approved under the terms of section 8 of this Act, and two-thirds in proportion to the number of dams located in each State *requesting assistance* that has an established dam safety program under the terms of section 8 of this Act to the number of dams in all States *requesting assistance* with such approved programs. In no event shall funds distributed to any State under this section exceed 50 per centum of the reasonable cost of implementing an approved dam safety program in such State.

"SEC. 8. (a) In order to encourage the establishment and maintenance of effective programs intended to assure dam safety to protect human life and property, the Secretary shall provide assistance under the terms of section 7 of this Act to any State that *requests such assistance and* establishes and maintains a dam safety program which is approved under this section. In evaluating a State's dam safety program, under the terms of subsections (b) and (c) of this section, the ~~Secretary~~ *Governor or Secretary, if the Governor so chooses* shall determine that such program includes the following:

"(1) a procedure, whereby, prior to any construction, the plans for any dam *subject to State jurisdiction* will be reviewed to provide reasonable assurance of the safety and integrity of such dam over its intended life;

"(2) a procedure to determine, during and following construction and prior to operation of each dam built in the State, that such dam has been ~~conducted~~ *constructed* and will be operated in a safe and reasonable manner;

"(3) a procedure to inspect every dam *subject to state jurisdiction* within such State ~~at least once every two years;~~ *with reasonable regularity.*

~~(3) a procedure for more detailed and frequent safety inspections, if warranted;~~

"(4) the State has or can be expected to have authority to require those changes or modifications in a dam, or its operation, necessary to assure the dam's safety;

"(5) the State has or can be expected to develop a system of emergency procedures that would be utilized in the event a dam fails or for which failure is imminent;~~together with an identification for those dams where failure could be reasonably expected to endanger human life, of the maximum area that could be inundated in the event of the failure of such dam, as well as identification of those necessary public facilities that would be affected by such inundation;~~

"(6) the State has or can be expected to have the authority to ~~assure~~ *require* that any repairs or other changes needed to maintain the integrity of any dam will be undertaken by the dam's owner, or other responsible party; and

"(7) the State has or can be expected to have authority ~~and necessary funds to make~~ *in an emergency to require* immediate repairs or other changes to, or removal of, a dam,~~in order to protect human life and property,~~ and if the owner does not take action, to take appropriate action as expeditiously as possible.

~~"(b) Any program which is submitted to the Secretary under the authority of this section shall be deemed approved one hundred and twenty days following its receipt by the Secretary unless the Secretary determines that such program fails to reasonably meet the requirements of subsection (a) of this section. If the Secretary determines such a program cannot be approved, he shall immediately notify such State in writing, together with his reasons and those changes needed to enable such plan to be approved.~~

"(b) Any program which is submitted under the authority of this section shall be deemed approved providing:

(1) The Governor of the State certifies to the Secretary that the State's program meets the requirements of subsection 8(a), or

(2) If submitted to the Secretary for approval, 120 days following its receipt by the Secretary, unless the Secretary determines that such program fails to reasonably meet the requirements of subsection (a) of this section. If the Secretary determines that any program submitted under Section 8(b)(2) cannot be approved, he shall immediately notify such State in writing, together with his reasons and those changes needed to enable such plan to be approved.

"(c) Utilizing the expertise of the Board established under section 11 of this Act, the Secretary shall review periodically the implementation and effectiveness of approved State dam safety programs. In the event the Board finds that a State program under this Act has proven inadequate to reasonably protect human life and property, and the Secretary agrees, the Secretary shall revoke approval of such State program and withhold assistance under the terms of section 7 of this Act until such State program has been reapproved.

"SEC. 9. (a) In order to assure that owners of dams will be able to obtain liability insurance at reasonable rates, and to protect persons located downriver of dams, the Secretary, or the head of any agency of the United States designated by the Secretary, shall provide to any insurer, subject to conditions established by regulation, reinsurance or guarantees of any insurance provided to the owner of a dam to protect such owner from liabilities incurred in the event of the failure of such dam. Reinsurance or guarantees provided under this section shall reimburse an insurer for those liabilities in excess of an amount agreed upon between the Secretary, or his designee, and the insurer.

"(b) Any reinsurance or guarantees provided under this section shall be available only in a State which has an approved dam safety program under the terms of section 8 of this Act.

"(c) Agreements on reinsurance or guarantees under this section shall provide that the failure of the owner of an dam to carry out expeditiously any modification or procedure required by a State under the terms of its dam safety program shall result in the cancellation of any reinsurance or guarantee provided by the Secretary, or his designee.

"(d)There is authorized to be appropriated such sums as may be necessary to carry out this section.

"(e) Not later than eighteen months after enactment of the Dam Safety Act of 1980, the Secretary and the Secretary of the Treasury shall report jointly to the Congress with an analysis of the effects of this section, together with any recommendations for a more comprehensive dam safety insurance program to assure the availability of insurance to owners of dams inspected under a State program approval under section 8 of this Act, in an effort to lessen or eliminate the need for any disaster assistance in the event of the failure of such a dam.

"SEC. 10. There is authorized to be appropriated and remain available the sum of ~~$20,000,000~~ $500,000,000 to be placed in a revolving fund by the Secretary, such funds to be available for loans, on terms established by the Secretary, to any owner for any dam required to make repairs, to replace, or to make other safety improvements in such dam under any safety program approved under section 8 of this Act, if such owner can demonstrate to the Secretary that other funds are not reasonably available, and such owner agrees to repay such funds and at a rate of interest on terms agreed to with the Secretary.

"SEC. 11. (a) There is authorized to be established a Federal Dam Safety Review Board (hereinafter referred to as the 'Board'), ~~which shall be responsible for reviewing the procedures and standards utilized in the design and safety analysis of dams constructed and operated under authority of the United States, and~~ to monitor State implementation of this Act. The Board is authorized to hire necessary staff and ~~shall review as expeditiously as possible the plans and specifications on all dams specifically authorized by Congress prior~~

~~to initiation of construction of such dam, and file an advisory report on the safety of such dam with the appropriate agency, the appropriate State, and the Congress. The Board is authorized~~ to utilize the expertise of other agencies of th United States and to enter into contracts for necessary studies to carry out the requirements for this section. There is authorized to be appropriated to the Board such sums as may be necessary to carry out this section.

"(b) The Board shall consist of nine members selected for their expertise in dam safety, ~~including one representative each from the Department of the Army, the Department of the Interior, the Tennessee Valley Authority, and the Department of Agriculture, plus five members,~~ appointed by the President for periods of five years, on a rotating basis~~,~~. ~~Who are not employees of the United States.~~ At least ~~two~~ *five* members of the Board shall be employees of the States having an approved program under section 8 of this Act. The Chairman of the Board shall be selected from among those members who are not employees of the United States.

"SEC. 12. The head of any agency of the United States that owns or operates a dam, or proposes to construct a dam in any State, shall~~, when requested by such State, consult fully with such State on the design and safety of such dam and allow officials of such State to participate with officials of such agency in all safety inspections of such dam.~~ *comply with all requirements of an approved State dam safety program.*

"SEC. 13. The Secretary shall, at the request of any State that has or intends to develop a dam safety program under section 8 of this Act, provide training for State dam safety ~~inspectors/~~ *personnel*. There is authorized to be appropriated to carry out this section $1,000,000 for the fiscal year ending September 30, 1982, and $500,000 during each of fiscal years ending September 30, 1983, September 30, 1984, and September 30, 1985.

"SEC. 14. The Secretary, in cooperation with the National Bureau of Standards, shall undertake a program of research in order to develop improved techniques and equipment for rapid and effective dam inspection, together with devices for the continued monitoring of dams for safety purposes. The Secretary shall provide for State participation in such research and periodically advise all States of the results of such research. There is authorized to be appropriated to carry out this section $1,000,000 for each of the fiscal years ending September 30, 1982, September 30, 1983, September 30, 1984, and September 30, 1985.

"SEC. 15. The Secretary is authorized to maintain and periodically publish updated information on the inventory of dams authorized in section 5 of this Act."

REPORTING OF DAM SAFETY

SEC. 2. Any report that is submitted to the Committee on Environment and Public Works of the Senate or the Committee on Public Works and Transportation of the House of Representatives by the Secretary of the Army, acting through the Chief of Engineers, or the Secretary of Agriculture, acting under Public Law 83-566, as amended, which proposes construction of a water impoundment facility, shall include information on the possibility of failure of such facility due to geologic or design factors, the potential impact of the failure of such facility, and information on the design features that would prevent, lessen, or mitigate such possibility of failure or the impact of failure.

SHORT TITLE

SEC. 3. This Act shall be known as the "Dam Safety Act of 1981".

NACD

STATEMENT
of the
National Association of Conservation Districts
on
S.671, The Dam Safety Act of 1983
before the
Water Resources Subcommittee
Senate Committee on Environment and Public Works

June 27, 1983

Mr. Chairman, members of the Committee:

I am Charles L. Boothby, Executive Secretary, National Association of Conservation Districts. Our association represents the 2930 conservation districts and their state associations in all 50 states, Puerto Rico, the Virgin Islands and the District of Columbia. Conservation districts provide assistance to over 2 1/2 million cooperating landowners.

Conservation districts have been concerned about dam safety for many years, both as owners of dams and through their involvement in providing assistance to other dam owners. The national council of NACD has stated the following policy of the association relative to this topic:

1) NACD strongly supports improved dam safety. We urge all federal agencies concerned with dam design and construction to continually review their design and construction criteria and methods to assure adequate safety at all times.

2) The responsibility for the safety of non-federal dams rests with the owners. We urge states to adopt reasonable programs for the supervision of planning and construction of these dams, as well as the inspection of existing structures.

3) NACD requests Congress to provide authority and funding to help owners and operators of existing dams and reservoirs to eliminate safety hazards and meet current standards.

Many state soil conservation agencies are also the state agency for dam safety. Many conservation districts assisted with the inventory of dams conducted by the Corps of Engineers in the late 1970's.

In response to the concerns of conservation districts, our association has prepared a slide and tape audio-visual presentation on this issue. I have included with my testimony a brochure which explains this presentation. We stand ready to make this presentation to the committee or its staff at your convenience.

This bill, S.671, addresses the most acute problems faced by states in getting organized to administer dam safety programs at the state level, namely, that the federal government recognizes that regulation of non-federal dams is primarily a state responsibility. In recent years, with the Corps or its agents out inspecting dams, some confusion has developed as to the final responsibility. This bill, if enacted, will send the right signals to the states.

Paragraph (a), lines 5 and 6 of page 1, apparently deletes the lower size limitation of dams to be inspected. This deletion is inappropriate, in our opinion. Although various states have differing size limitations which federal statute should not supercede, we question whether removing entirely the size limitation is a good idea. With no lower limit, the program would cover every stock pond and irrigation pond. The numbers of dams involved would jump from several thousand to several million. We recommend retaining a size limitation in this bill and would prefer to retain the present size limits.

Our information, as of 1982, shows that only a few states have an adequate dam safety program. "Adequate" is defined as including: 1) necessary legislative and regulatory authority, 2) necessary funding, and 3) adequately trained staff. Although 39 states have the legislative authority, only 16 states meet all three criteria.

We support the provisions of Sections 7 and 8 to provide financial and technical assistance to the states. The criteria specified in Section 8 for approval of state programs appear to be comprehensive and in consonance with a study of non-federal dam safety conducted by the National Research Council of the National Academy of Sciences in 1981.

Owners of dams have found that it is almost impossible to find liability insurance at any price, irrespective of the condition of their dam. Section 9 addresses this need and should be of value to owners of dams.

Section 10, which provides for a revolving fund to assist dam owners in making repairs, is a very necessary provision in this bill. This is especially necessary where the owner of the dam receives no direct monetary return directly from the dam.

There does not appear to be included in this bill the authority for the Secretary to promulgate rules in implementation of this act. Although such a provision may not be necessary, its inclusion would perhaps reduce future misunderstandings.

Mr. Chairman, our association strongly supports the passage of S.671 and urges this committee to recommend its approval. Thank you for this opportunity to present our views.

OHIO RIVER BASIN COMMISSION

Iron Works Pike
Lexington, Kentucky 40578

P.O. Box 11910
(606) 252-2291
(FTS) 355-2402

June 20, 1983

Honoranle James Abdnor, Chairman
Subcommittee on Water Resources
Committee on Environment and
  Public Works
United States Senate
SD-410 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Abdnor:

I am very pleased to hear that you will be including Senator McClure's bill, S.671 in your June 27 hearing on water resources topics, which includes dam safety.

The Commission, through testimony by Mr. Joseph Ellam of the Commission's States' Dam Safety Committee and by resolution (copy enclosed) has supported Senator McClure's bill through several Congresses. Once ageain, we wish to reiterate our support for S. 671. We very much need a national program for inspection of dams and trust that the 98th Congress will be the one to enact this vital legislation.

Thank you for your consideration.

Sincerely,

fr Mrs. Jackie Swigart

Mrs. Jackie Swigart
Chairman

Enclosure
As stated

cc. Honorable James A. McClure

March 9, 1982

OHIO RIVER BASIN COMMISSION

RESOLUTION ON DAM SAFETY

WHEREAS, dams contribute to the efficient management and conservation of the Nation's water resources and enhance the economic well-being of our citizens; and

WHEREAS, inadequately constructed, operated, or maintained dams, many of which are decades old, can pose a serious threat to public and private property and the health and safety of our citizens; and

WHEREAS, dam safety is now being addressed by a national program of inspections under P.L 92-367; the effectiveness of this program, conducted by the U.S. Army Corps of Engineers in cooperation with the various States, cannot yet be fully determined and the program is not fully working for the benefit of non-Federal dams; and

WHEREAS, the Ohio River Basin Commission believes, however, that the program should be continued as the best means of developing effective dam safety programs.

NOW, THEREFORE, LET IT BE RESOLVED that the Ohio River Basin Commission urges Congress to enact legislation promptly which:

1. Confirms that the States have the primary role in the implementation and administration of dam safety programs, including inspection and establishment of standards to fit individual State needs;

2. Provides for the continuing program at the State level to ensure that all dams are properly inspected and appropriate steps taken to correct serious hazards;

3. Provides for the valuation of other potential problems and needs in developing effective State dams safety programs, and provides adequate financial and technical assistance sufficient to ensure that State-designed programs can be accomplished; and

4. Provides for training and technical assistance for State dam inspection programs, and research to develop cost-effective inspection techniques and equipment.

98TH CONGRESS
1ST SESSION

S. 671

To authorize a national program to encourage dam safety.

IN THE SENATE OF THE UNITED STATES

MARCH 3 (legislative day, FEBRUARY 23), 1983

Mr. McCLURE (for himself and Mr. DECONCINI) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

---

A BILL

To authorize a national program to encourage dam safety.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That Public Law 92-367 (86 Stat. 506) is amended as follows:

(a) SIZE OF DAMS.—Section 1 is amended by deleting the final sentence.

(b) RIGHT OF ENTRY.—Section 2 is amended (a) by inserting "(a)" immediately after the words "the Chief of Engineers shall carry out a national program of inspection of dams for the purpose of protecting human life and property.", and by striking the "and" after "inspection" and striking the period after "property" and inserting the following: "and (5) dams located within a State having an approved program under section 8 of this Act." and (b) by adding at the end thereof the following new subsections:

"(b) In order to carry out the purposes of this Act, the Secretary, or his authorized representative, upon presenting appropriate credentials to the owner, operator, or agent in charge is authorized—

"(1) to enter without delay and at reasonable times any damsite, structure, appurtenance, or any work area, or other area used in connection with operation of the dam; and

"(2) to inspect and investigate during regular working hours and at other reasonable times, and within reasonable limits and in a reasonable manner, any such damsite and all pertinent conditions, structures, machinery, apparatus, devices, equipment, and materials therein or thereon; and to require any owner, operator, agent or employee, or designer, contractor or builder, to provide information regarding the design, construction, operation, and maintenance of the same; and to have access to any records, blueprints, plans, or other pertinent documents pertaining to the design, construction, operation, and maintenance of the same.

"(c) Except as to cases the court considers of greater importance, any judicial proceedings involving this Act before a district court of the United States, and appeals therefrom, take precedence on the docket over all cases and shall be assigned for hearing and trial or for argument at the earliest practicable date and expedited in every way.".

(c) Contractor Liability.—Section 6 is amended by inserting a new paragraph (2) as follows, and by renumbering paragraph (2) as paragraph (3):

"(2) to create any liability for agents or contractors for damages caused by such action or failure to act in excess of the amount of the contract entered into pursuant to the Act;".

(d) State Assistance Program.—Following section 6, add the following new sections:

"Sec. 7. There is authorized to be appropriated to the Secretary of the Army, acting through the Chief of Engineers (hereafter in this Act referred to as the 'Secretary'), $15,000,000 for each of the fiscal years ending September 30, 1984, September 30, 1985, September 30, 1986, and September 30, 1987. Sums appropriated under this section shall be distributed annually among those States on the following basis: One-third equally among those States that have established dam safety programs approved under the terms of section 8 of this Act, and two-thirds in proportion to the number of dams located in each State that has an established dam safety program under the terms of section 8 of this Act to the number of dams in all States with such approved programs. In no event shall funds distributed to any State under this section exceed 50 per centum of the reasonable cost of implementing an approved dam safety program in such State.

"SEC. 8. (a) In order to encourage the establishment and maintenance of effective programs intended to assure dam safety to protect human life and property, the Secretary shall provide assistance under the terms of section 7 of this Act to any State that establishes and maintains a dam safety program which is approved under this section. In evaluating a State's dam safety program, under the terms of subsections (b) and (c) of this section, the Secretary shall determine that such program includes the following:

"(1) a procedure, whereby, prior to any construction, the plans for any dam will be reviewed to provide reasonable assurance of the safety and integrity of such dam over its intended life;

"(2) a procedure to determine, during and following construction and prior to operation of each dam built in the State, that such dam has been conducted and will be operated in a safe and reasonable manner;

"(3) a procedure to inspect every dam within such State at least once every two years;

"(4) a procedure for more detailed and frequent safety inspections, if warranted;

"(5) the State has or can be expected to have authority to require those changes or modifications in a dam, or its operation, necessary to assure the dam's safety;

"(6) the State has or can be expected to develop a system of emergency procedures that would be utilized in the event a dam fails or for which failure is imminent together with an identification for those dams where failure could be reasonably expected to endanger human life, of the maximum area that could be inundated in the event of the failure of such dam, as well as identification of those necessary public facilities that would be affected by such inundation;

"(7) the State has or can be expected to have the authority to assure that any repairs or other changes needed to maintain the integrity of any dam will be undertaken by the dam's owner, or other responsible party; and

"(8) the State has or can be expected to have authority and necessary funds to make immediate repairs or other changes to, or removal of, a dam in order to protect human life and property, and if the owner does not take action, to take appropriate action as expeditiously as possible.

"(b) Any program which is submitted to the Secretary under the authority of this section shall be deemed approved one hundred and twenty days following its receipt by the Secretary unless the Secretary determines that such program fails to reasonably meet the requirements of subsection (a) of this section. If the Secretary determines such a program cannot be approved, he shall immediately notify such State in writing, together with his reasons and those changes needed to enable such plan to be approved.

"(c) Utilizing the expertise of the Board established under section 11 of this Act, the Secretary shall review periodically the implementation and effectiveness of approved State dam safety programs. In the event the Board finds that a State program under this Act has proven inadequate to reasonably protect human life and property, and the Secretary agrees, the Secretary shall revoke approval of such State program and withhold assistance under the terms of section 7 of this Act until such State program has been reapproved.

"SEC. 9. (a) In order to assure that owners of dams will be able to obtain liability insurance at reasonable rates, and to protect persons located downriver of dams, the Secretary, or the head of any agency of the United States designated by the Secretary, shall provide to any insurer, subject to conditions established by regulation, reinsurance or guarantees of any insurance provided to the owner of a dam to protect such owner from liabilities incurred in the event of the failure of such dam. Reinsurance or guarantees provided under this section shall reimburse an insurer for those liabilities in excess of an amount agreed upon between the Secretary, or his designee, and the insurer.

"(b) Any reinsurance or guarantees provided under this section shall be available only in a State which has an approved dam safety program under the terms of section 8 of this Act.

"(c) Agreements on reinsurance or guarantees under this section shall provide that the failure of the owner of any dam to carry out expeditiously any modification or procedure required by a State under the terms of its dam safety program shall result in the cancellation of any reinsurance or guarantee provided by the Secretary, or his designee.

"(d) There is authorized to be appropriated such sums as may be necessary to carry out this section.

"(e) Not later than eighteen months after enactment of the Dam Safety Act of 1983, the Secretary and the Secretary of the Treasury shall report jointly to the Congress with an analysis of the effects of this section, together with any recommendations for a more comprehensive dam safety insurance program to assure the availability of insurance to owners of dams inspected under a State program approval under section 8 of this Act, in an effort to lessen or eliminate the need for any disaster assistance in the event of the failure of such a dam.

"SEC. 10. There is authorized to be appropriated and remain available the sum of $20,000,000 to be placed in a revolving fund by the Secretary, such funds to be available for loans, on terms established by the Secretary, to any owner for any dam required to make repairs, to replace, or to make other safety improvements in such dam under any safety program approved under section 8 of this Act, if such owner can demonstrate to the Secretary that other funds are not reasonably available, and such owner agrees to repay such funds and at a rate of interest on terms agreed to with the Secretary.

"SEC. 11. (a) There is authorized to be established a Federal Dam Safety Review Board (hereinafter referred to as the 'Board'), which shall be responsible for reviewing the procedures and standards utilized in the design and safety analysis of dams constructed and operated under authority of the United States, and to monitor State implementation of this Act. The Board is authorized to hire necessary staff and shall review as expeditiously as possible the plans and specifications on all dams specifically authorized by Congress prior to initiation of construction of such dam, and file an advisory report on the safety of such dam with the appropriate agency, the appropriate State, and the Congress. The Board is authorized to utilize the expertise of other agencies of the United States and to enter into contracts for necessary studies to carry out the requirements for this section. There is authorized to be appropriated to the Board such sums as may be necessary to carry out this section.

"(b) The Board shall consist of nine members selected for their expertise in dam safety, including one representative each from the Department of the Army, the Department of the Interior, the Tennessee Valley Authority, and the Department of Agriculture, plus five members, appointed by the President for periods of five years, on a rotating basis, who are not employees of the United States. At least two members of the Board shall be employees of the States having an approved program under section 8 of this Act. The Chairman of the Board shall be selected from among those members who are not employees of the United States.

"SEC. 12. The head of any agency of the United States that owns or operates a dam, or proposes to construct a dam in any State, shall, when requested by such State, consult fully with such State on the design and safety of such dam and allow officials of such State to participate with officials of such agency in all safety inspections of such dam.

"SEC. 13. The Secretary shall, at the request of any State that has or intends to develop a dam safety program under section 8 of this Act, provide training for State dam safety inspectors. There is authorized to be appropriated to carry out this section $1,000,000 for the fiscal year ending September 30, 1984, and $500,000 during each of fiscal years ending September 30, 1985, September 30, 1986, and September 30, 1987.

"SEC. 14. The Secretary, in cooperation with the National Bureau of Standards, shall undertake a program of research in order to develop improved techniques and equipment for rapid and effective dam inspection, together with devices for the continued monitoring of dams for safety purposes. The Secretary shall provide for State participation in such research and periodically advise all States of the results of such research. There is authorized to be appropriated to carry out this section $1,000,000 for each of the fiscal years ending September 30, 1984, September 30, 1985, September 30, 1986, and September 30, 1987.

"SEC. 15. The Secretary is authorized to maintain and periodically publish updated information on the inventory of dams authorized in section 5 of this Act.".

REPORTING OF DAM SAFETY

SEC. 2. Any report that is submitted to the Committee on Environment and Public Works of the Senate or the Committee on Public Works and Transportation of the House of Representatives by the Secretary of the Army, acting through the Chief of Engineers, or the Secretary of Agriculture, acting under Public Law 83–566, as amended, which proposes construction of a water impoundment facility, shall include information on the possibility of failure of such facility due to geologic or design factors, the potential impact of the failure of such facility, and information on the design features that would prevent, lessen, or mitigate such possibility of failure or the impact of failure.

SHORT TITLE

SEC. 3. This Act shall be known as the "Dam Safety Act of 1983".

OMNIBUS WATER RESOURCES LEGISLATION

Urban Water Supply

TUESDAY, JUNE 28, 1983

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON WATER RESOURCES,
Washington, D.C.

The subcommittee met at 2 p.m. in SD-406, Dirksen Senate Office Building, the Hon. Daniel Patrick Moynihan, presiding.

Present: Senators Moynihan and Abdnor.

CPENING STATEMENT OF HON. DANIEL PATRICK MOYNIHAN, U.S. SENATOR FROM THE STATE OF NEW YORK

Senator MOYNIHAN. A very pleasant good afternoon to the ladies and gentlemen present.

I am Senator Moynihan as you can see from the sign. The chairman of our subcommittee won't be able to be here for a bit. He is in our general gridlock of committee hearings at this time of the year and he is in one place and it happens that I could be here and am very happy to do so.

We are much more interested in hearing the testimony of the distinguished witnesses we have today than in having you hear our random thoughts on this subject. This is the first hearing on urban water supply in the U.S. Senate in 15 years since the legislation of that year was small, not inconsequential but not especially a large piece of legislation.

It is the curious fact of the water programs of the U.S. Government that they are confined in their nature to ostensibly agricultural or flood control purposes. That is not in fact what they are solely used for. A very considerable portion of the flood control and agricultural water supply projects are in fact directed to urban water systems. I can recall flying across the southwestern desert with a distinguished Governor of that area and asking where does this particular water system end up. He said it ends up in the swimming pools of the capital of our State although it was nominally designed to grow cotton or whatever.

The point is that there is an extraordinary imbalance as between the Northeast and Central part of the Nation and the West and Southwest. This applies generally to water programs. And there is an equal imbalance in the usages. The Federal Government will help States produce water systems that wash coal but they can't help you if they want to wash babies. You can water cattle but you can't produce systems that people drink.

This is historic and there are reasons for it and they were good enough at the time. They are not good enough any longer in the view of many members of this committee. Six years ago Senator Domenici and I introduced legislation that had, as its general purpose, to establish a comprehensive system of water programs in which a certain amount of money each year would be appropriated and it would be divided by the States. The States would share 25 percent of the cost and the people could bank their moneys if they wished to larger projects.

They can use the moneys for whatever approved Federal purposes there were and they could make the decision. Everyone would share.

One of the things that is very slowly dawning on the Congress is that the water programs of the past are of the past. We haven't had a serious water bill of any kind pass this Congress since 1972, a very small one in 1976, but none in the administration of President Carter, none so far in the administration of President Reagan. In the old days where the huge seemingly cost free projects could be hid from Federal Government if you had a member of this committee and its corresponding committee on the other side of the Capitol, the chairman would get two dams, the vice chairman would get one and the random would be distributed among the others from time to time by virtue of their good spirits or compliance in other regards.

Those are over. In the meantime enormously important matters are being neglected. We are not maintaining our water infrastructure, particularly in our older regions. In our newer regions we are depleting it, depleting water supplies. On the whole we are not acting as a very informed people in this matter.

A statistic I like to cite is that this year the budget of the Corps of Engineers in Saudi Arabia is twice what it is in the whole of the United States of America. The Corps of Engineers is building twice as much in Saudi Arabia as it is in our own country. That is a mark of a stalemate and out of it somehow we have to come up with a new set of ideas. It is to those new sets of ideas that we summon your counsel and I will have to thank you individually, but first on behalf of the cities and the mayors, the groups most neglected by our policies we have the Honorable Ted Wilson, who is the mayor of Salt Lake City who will speak for the U.S. Conference of Mayors and I believe Mayor McCoy of Oklahoma City for the National League of Cities. Could you two gentlemen come forward and we welcome you.

Mayor Wilson, you are first on the list, so perhaps you would like to begin. You may proceed exactly as you wish. I will place your statement in the record and ask you to summarize it as you wish.

STATEMENT OF HON. TED WILSON, MAYOR, SALT LAKE CITY, ON BEHALF OF THE U.S. CONFERENCE OF MAYORS

Mr. WILSON. Thank you, Senator.

In representing the U.S. Conference of Mayors, I am very happy to be here. I am Ted Wilson, the mayor of Salt Lake City. I am here today representing the conference which is composed of most of the Nation's larger cities, over 30,000 population. Councilman McCoy, I am sure, will speak to all of the rest of the cities plus many of the larger ones also.

Urban water policy has been one of my chief preoccupations in my two terms as mayor. Out in the West we have a desert situation most of the time. I first got into water policy in 1977 when we had a major drought. In fact after recent flooding in Salt Lake City our Governor who is an old railroad man said this is a hell of a way to run a desert which is probably his best way of describing what was going on in Utah in recent weeks and months.

Senator MOYNIHAN. If I could just interrupt I recall visiting the home of Joseph Smith and a very elaborate arrangement in the bathtub. When the bathtub was emptied, it went to the garden. Not a bit of water was to be wasted.

Mr. WILSON. That is right. We have always taken care of water very, very carefully.

I got involved in 1977 as I said and following that I was pleased to serve along with Mayor Koch of New York on the President's Intergovernmental Water Task Force and I have spent a good part of this year preparing for and dealing with the aftermaths of floods.

With the permission of the committee I would like to take a moment to say how I am extremely proud of my city, the way citizens and others responded in recent weeks. During a 2-week period from May 26, to June 10, we constructed 19 miles of sandbag dikes and levies through the heart of Salt Lake City three major rivers on our streets where traffic normally runs and with the help of thousands of volunteers we were able to save about 9,000 homes from being flooded and prevented the evacuation of over 10,000 people.

The dikes also prevented damage to $600 million worth of commercial property in downtown Salt Lake City and saved the industrial areas west of our city. Altogether the loss of personal property was limited to $1.7 million. We are very proud of that fact. Water policy will often be the victim of circumstances beyond human control. We can't always control flooding. We learned that lesson in Salt Lake City this spring. We also learned we can't always protect the public from extremes of nature.

With proper planning we can prevent major disasters.

Without the public improvements made by the Army Corps of Engineers 30 years ago following another major flood the damage at Salt Lake City this year would have been counted in the hundreds of millions of dollars. I might add based on your earlier remarks the Army Corps really hasn't had much business in the city itself. This canal they built back in the fifties was really made to serve suburban and rural agricultural irritation interests. It just happened to be available to us for flood control.

So I think maybe it benefited us but not certainly by way of planning or policy from that time.

I know for a fact there are many cities across the country with the same problems as Salt Lake City. What we need is a new intergovernmental commitment, partnership, and resources to improve our urban water supply and flood control capability. The U.S. Conference of Mayors commends this subcommittee for going forward with the urban hearing today. Hopefully, this is just the first step toward enacting legislation this year to begin to deal with this need.

Now is the time to deal with urban water resource and flood control needs. In the absence of a separate approach targeted to the overall problems of urban infrastructure we believe it is appropriate to develop an urban water policy and program within an omnibus water resources legislative package.

Regretfully Congress has been unabe to enact omnibus water legislation since 1976. The backlog of much needed projects and resources is well known to this subcommittee. Our purpose this morning is to focus on the outline of elements which such legislation should contain if it is to be relevant to the broad and diverse needs of this Nation's cities.

The Army Corps of Engineers' mandate should be discussed. The Army Corps of Engineers by virtue of its technical expertise and experience should be poised to help cities with their water problems in a vigorous way. But it is not. We believe this is the case because Congress has not provided the corps with the legislative mandate to do so.

Omnibus water legislation should affirmatively state the national interest in urban water supply and flood control problems and direct the corps to get energetically involved in this area. Cities could begin work on water supply and flood control problems now if there was a possibility for partial reimbursement at some later point by the corps if projects met certain criteria. This authority was included in the 1976 legislation but expired approximately 1 year after enactment.

Such authority should become a key part of any new omnibus legislation.

Cities also believe that the planning program under existing corps' authority should be permitted to continue. While planning benefits are nullified unless followed by effective program implementation, planning funds have and will help to insure a level of quality in the expenditures ultimately made.

As a matter of principle, mayors can support the concept of cost-sharing for water projects. Cities have benefited from the wide variety of targeted Federal efforts in the areas of transportation, housing, community and economic development and environmental quality. Many of those have had State and local matching shares. We certainly want to do our part. We think we are obliged to do this, want to do it and the program actually goes better if we have a part in the financing of it.

A cost sharing approach is reasonable, so long as lands, easements and rights-of-way are taken into account in calculating the local share. It is much easier for us to allocate the land under a dam as our local share rather than having sell that some way and come back and pay for it in cash.

Mr. Chairman, the points I have just discussed are important but of secondary importance compared to the heart of the recommendation we bring to you today. As an outgrowth of my work on the intergovernmental water policy task force the U.S. Conference of Mayors has adopted a policy calling for the establishment of a Federal water bank to provide a dedicated source of capital for the financing of urban water system improvement and expansion and flood control. Such a program could be run by the Army Corps of Engineers and the available municipalities in the form of low interest loans with a local share required and for projects based on sound planning.

We believe such an urban bank could be the catalyst which could bring about the rejuvenation of urban water systems in this Nation. With a new mandate for the corps and a financing tool such as a Federal water bank a new period of rehabilitation and restructing could occur for the Nation's urban water systems. Again we are not looking for grants. We are looking for some form of loaning device, loans that we could be eligible for.

Mr. Chairman, on behalf of the U.S. Conference of Mayors I want to thank you for this opportunity. We are very delighted that you put your considerable prestige on the line in this important area. We also congratulate Senator Abdnor for his work on this particular process. We would like to submit to any questions you might have or be willing to wait until the National League of Cities finishes.

Senator MOYNIHAN. Thank you, Mr. Mayor.

I think if we could hear from Councilman McCoy next we then can discuss your joint suggestions.

You are speaking for the National League of Cities and are a member of the city council.

STATEMENT OF BOB McCOY, COUNCIL MEMBER, OKLAHOMA CITY, OKLA., ON BEHALF OF THE NATIONAL LEAGUE OF CITIES

Mr. McCOY. I am Bob McCoy, council member from Oklahoma City and a member of the National League of Cities Energy, Environmental and Natural Resources Steering Committee.

I am here today to testify on behalf of the League of Cities and the 15,000 cities of all sizes that NLC represents.

We appreciate the opportunity to testify on the need to raise the level of concern about the state of urban water resources. While much has been taken for granted in the past, the future will demand careful attention to the use, allocation, and supply of this essential resource.

Our written statement is being separately submitted to your staff. I will not repeat the statement verbatim.

The thrust of NLC's position is that urban water supply has never been a recognized national priority and it should be. Neither, however, should the Federal Government turn its back on navigation, irrigation, hydroelectric power, flood control and water pollution problems. Each of these has gained national priority because they relate either to the development of our country as a strong economic force or because they threaten to destroy this very same development.

But I often get the feeling that Congress, just like my constitutents, seems to consider drinking water as something that is just there when you turn on the tap. It is time to become realistic. Drinking water is a precious commodity. It deserves everyone's priority, not to destroy or supply other priorities but to complement them. NLC believes management of local water resources is primarily a local responsibility. But we also believe Federal policies are involved almost unintentionally in that management process and most particularly in the financing process.

We do not believe substantial increases in Federal financing is the answer. Of course we will appreciate funding from the Federal Government to whatever extent Congress deems appropriate. But our view of the problem is one of looking for help in allowing us to truly manage and finance our own water resources development and maintenance.

For example, NIC's municipal bond task force favors Senate 533 introduced by Senator Domenici to recapture interest subsidies for the benefit of the issuing government body. This taxable bond option provides for true level determination and does not pit neighbor against neighbor.

We oppose House Resolution 3110 by Representative Pickle which would reduce the availability of leasing as a capital raising device, a device which is just now beginning to work exceptionally well for our cities. We favor establishment of the national ground water policy. Over 50 percent of our Nation's drinking water comes from this source, yet there is no national policy. We favor cost sharing arrangements in research for construction that allow us to help you develop water resources we all need but which keep the local responsibility at the local level.

We see such cooperative arrangements as mutually beneficial. That is then the essence of NLC's position. Help us manage our resources by removing barriers, produce efficient mechanisms for helping us realize the benefits of tax exempt financing, don't create barriers through leasing and other financing arrangements. Let us be involved in the project by mutual benefit. Establish the national ground water policy to protect the drinking water.

Over 50 percent of the Nation's people depend on and recognize water supply as a full partner in our national priorities for water development and maintenance.

Thank you.

Senator MOYNIHAN. Thank you, sir. Let me say that I couldn't agree more with Mr. McCoy. The water systems are underground, out of sight and water comes out of a faucet.

I was getting into my teens before it ever occurred to me in Manhattan, how did the water get into the faucet. It was just there. You turn it on and out it came.

But I have said once on the floor of the Senate that you can live without oil and you can even live without love, but you cannot live without water. Any knowledge of the history of the urban world, is a history of water supply systems. We have taken them very casually. In my own city of New York in 1905, or so, we built the first true aqueduct since the Alexandrin Act in the fourth century of Rome. It was all underground. It goes down 600 feet under the Hudson, a great immense engineering achievement.

Let me ask the two of you, if you won't comment on your respective thoughts. Mr. Mayor, you asked for a national, a Federal water bank. I take it that is dedicated capital as you say that you can draw upon and repay.

Mr. WILSON. Yes.

Senator MOYNIHAN. It has the advantage of being a lower interest rate and it doesn't impinge on the municipal debt limits. When you do one of these things, you don't do them that often, but they are very big. How do you feel about that? How would the league feel on the subject?

Mr. McCOY. We do favor the Federal water bill, although, as I said, we would encourage the committee to consider Senator Domenici's taxable bond option.

Senator MOYNIHAN. As a ground water policy. That is not the same. A ground water policy. describe it more in larger terms? What would the Government do?

Mr. McCOY. We will submit about 20 pages on that. I probably could not recite that very succinctly as I did earlier. But over half of the people of this Nation depend upon the drinking water. These aquifiers cover Americans in many States. I can't even pronounce well, the Ogallala Aquifer, which partially serves my State.

Senator MOYNIHAN. It starts with O and ends in A and covers most of the High Plains.

Mr. McCOY. It is rapidly depleting. There is no coherent policy toward the utilization of that particular resource. It threatens a substantial farming industry, scattered throughout many States. Very little is known that well at least about aquifers. On the other hand we have an aquifer in central Oklahoma that I am familiar with. The city sits on it. The Garber Wellington. It is a recharging aquifer. Water goes back into that. But if water goes back into that so that we might capture that resource, how best are we to protect it from contamination because if water can go in, so can contamination.

That particular aquifer, by the way, has 15,000 holes punched through it which have not contaminated the aquifer.

Senator MOYNIHAN. What is the name?

Mr. McCOY. Garber Wellington is the name of the aquifer. It is very small. There are a number of aquifers around the country, but still they amount to over half of the drinking water of this Nation.

Senator MOYNIHAN. That is right. Can I say I have submitted legislation for several years now on the subject of sole source aquifers of which there are a good 15, or 16 in which there is an urban conservation of some kind which lives wholely and solely off this aquifer. Almost all of them are recharged. I am talking to those that aren't. Long Island, the counties of Nassau and Suffolk is a good example that is one aquifer. The water that you drink on Long Island today fell as rain 50 years ago. We have a lot of dune area and, what the southerners call, piney woods which we kept at the site. We are pretty sure that aquifer would stay in good shape indefinitely. But in the western part of the island it is already down to 1,500 feet.

The things that have been added to the ground surface in the last 50 years that now go down with the rain are very different from those 50 years ago. If the quality ever turns, you have to abandon the site. That is all. You can't reverse. You can't dig down there.

I couldn't agree more that a ground water policy is necessary. A great deal of the water being brought up from the aquifers right now is geological water. I think that is the word they use for it. It is down there like oil is down there. You can take it up and nothing replaces it. Then after a while parts of Arizona start collapsing.

There is no really sustained study. There is not sustained record maintenance. There is no sustained preventive care. We just have a problem here.

Maybe the answer is to put all the waterpipes above ground. Do you think if you did that, then people would notice it. I despair.

Mr. **McCoy.** It would take a lot of electricity to keep the pipes warm.

Mr. **Wilson.** When we were going out to our voters for a $15 million increase in our fees in order to put new pipes in the ground we thought that maybe we ought to treat them like parks. As you suggest, we bring them up out of the ground and name them after leading citizens. We might get the political muscle we need. They are out of sight, out of sound, out of mind. People tend to put this last. It is very important.

Senator **Moynihan.** I take note that the Roman emperors did not fail to make that mistake, they made them very visible and named them after themselves. And the Wilson Aquifer, think about it——

Mr. **Wilson.** That is not a bad idea.

Senator **Moynihan.** When you talk about the water bank, what do you have in mind in terms of what was the conference thinking would be an appropriate range of dedicated capital?

Mr. **Wilson.** We have proposed initially to support about an $800 million bank.

Senator **Moynihan.** $800 million?

Mr. **Wilson.** About $800 million. That won't begin to approach the problem. But we feel like we got to get a foot in the door and show that the thing can work for us. Obviously this Congress is not going to throw a lot of money at any problem.

Well, you may be right about that. Any urban problem.

Senator **Moynihan.** We have the agricultural appropriation bill up tomorrow afternoon if you would care to stay around, sir.

Mr. **Wilson.** I will concede that one to you.

Senator **Moynihan.** In particular one of the things we are just beginning to, I am on the Budget Committee as well as Finance, we are beginning to take heed of the credit budget, enormous amounts of Federal resources are provided by way of low interest loans. They aren't noticed as such but they are, in fact, an expenditure of resources. But they don't go to cities. They don't go to water supplies. If you think they don't go other places, as I say, you would be welcome to sit in the gallery and watch the scene tomorrow afternoon. It is going to be a great joy I assure you.

Let me tell you something. I will put your bill in. I think it is a good bill.

I will ask my chairman to join me if he wishes, as I think I won't speak for him, but if he does, it will be his bill and mine. I think it is a good idea. I think the idea of a ground water policy is a good idea. It is one of those things that there is not much immediate award for.

That is one of the political problems, I think. But President Kennedy used to love to tell a story about some gristled old French imperialist as he would be known today, General Liota in Nigeria was noticing his gardener dawdling one afternoon and he asked, what is this all about? He said he was planting his cactus. He said, "Get on with it."

He said, "Well, the cactus only blooms once in a hundred years and it has just bloomed." He said, "Then plant it this afternoon."

We really have to have a little more of a sense of that. People have some sense of it for us and we for them.

I thank you, very much.

Mr. **Wilson.** Could I add one other thing?

There is a dimension in our testimony which is. I think, a little unusual; that is, that we have sought to provide in the urban water bank some flexibility for cities to choose between or to make options on, either to go to flood control or to water systems. Ofter they relate.

Senator MOYNIHAN. As in the case of Salt Lake City.

Mr. WILSON. This year in Salt Lake City, when we had the major flooding on a creek called Porky's, we had this existing dam which is in a huge canyon, called Mountain Dell Dam; it came this close to spilling.

Had it spilled, we would have wiped out an interstate freeway, 15 miles of it, we would have caused major damage in the Sugar House portion of Salt Lake City.

We have had an alternative dam for years under the Army Corps project. It has been authorized but never appropriated, of course, like many have been. The dam is called the Little Dell Dam. It would sit just above the Mountain Dell Dam.

The advantage to it, the reason that it becomes sort of a flood control supply-type of issue is that because of the nature of the topography, weather and so forth in Utah, in the dry years you can store all the water you want. You can store 30,000 acre-feet of water and use that water in the dry year to feed your homes and businesses downstream in the city.

In the wetter years you have the low, at about 5,000 acre-feet of water, thus giving you 25,000 acre-feet to hold back the floods. So oftentimes, it is a question of flood control and supply, as intermixed. We also damaged, because of the flooding, several of our reservoirs and water treatment plants by putting grit and silt into the filters and caused probably a half a million dollars worth of damage in those particular treatment plants. So, flooding and clear water supply often does come together.

We didn't realize all of that until this year until we got hit in Utah. Then we did realize they go hand in hand very often.

Thank you.

Senator MOYNIHAN. We thank you, very much, gentlemen.

It is well begun.

Now, Mr. Scott Tucker, who is president of the National Association of Urban Flood Management Agencies and the executive director of the Urban Drainage and Flood Control interests of Denver is waiting to speak.

We welcome you to this committee, Mr. Tucker.

STATEMENT OF L. SCOTT TUCKER, PRESIDENT, NATIONAL ASSOCIATION OF URBAN FLOOD MANAGEMENT AGENCIES, ACCOMPANIED BY JOHN MURPHY, NATIONAL ASSOCIATION OF URBAN FLOODING MANAGEMENT AGENCIES

Mr. TUCKER. Thank you, very much, Senator.

I appreciate the opportunity. With me is John Murphy from the National Association of Urban Flooding Management Agencies.

Senator MOYNIHAN. We welcome you, Mr. Murphy.

Mr. TUCKER. I am Scott Tucker, executive director of the Urban Drainage and Flood Control District of the Denver metropolitan area.

I appear today as president of the National Association of Urban

Flood Management Agencies which I will refer to as NAUFMA. It is much easier to say than all of those words. It serves as a common voice for public officials at the State and local government level, who are responsible for dealing with the problems of urban flooding management.

The member agencies of NAUFMA came together in 1977 as a means of focusing on the management of urban watersheds, generally, and the problems of urban flood management in particular.

Through the association, members exchange technical information, undertake efforts to increase public understanding and support for the more effective use of watersheds, and make recommendations at the national level for responsible and responsive water resources policies.

As public officials, NAUFMA members are concerned with the total health and well-being of our communities, and it is in this context that we approach the problems of flood protection and watershed management. Flood protection and watershed management are an important part of the effort required to maintain viable local economies and foster overall community goals.

But achieving viable economies and fostering community goals cannot go forward in the absence of necessary water resources development. Such development must include a strong Federal role, in partnership with State and local governments.

NAUFMA is deeply concerned with the fact that the national water resources development program has literally ground to a halt.

Senator MOYNIHAN. Which we have been saying.

Mr. TUCKER. We realize that one of the principal reasons why water resources development legislation has not been enacted since 1976 is the lack of consensus on the part of Congress, the administration, and the consituency on water resources policies generally, and project cost-sharing, particularly. NAUFMA believes that the time has come to try to forge such a consensus.

Thus, we commend the committee for holding these hearings and for your stated commitment toward expeditiously moving a bill through the public Works Committee this year.

We are looking forward to that. We also want to take note of the administration's recently announced policy on cost sharing as a useful contribution to the debate, and, hopefully, a stimulus to early action on legislation.

Mr. Chairman, there are a number of water resources policy issues upon which NAUFMA has recommendations for the subcommittee's consideration. They are divided into the following categories: Defining the Federal interest in flood control; cost sharing; accelerating and streamlining the planning and project authorization processes; and water resources policy coordination.

I will hit several specific recommendations.

The first is the nationwide study of the Nation's urban flood problems.

NAUFMA urges that Congress authorize the Chief of Engineers to undertake a study of the extent of the Nation's flood problems, giving particular attention to the flood problems in highly developed urban watersheds and their relationship to local storm drainage and pollution control measures.

Such a study was called for by section 221 of H.R. 4788, passed by the House in 1980, but not enacted. NAUFMA believes that in addition to giving attention to the historically neglected flood problems of urban watersheds, the study would also provide the basis for a redefinition of the Federal interest in urban flood management.

CRITERIA FOR DETERMINING THE FEDERAL INTEREST IN FLOOD CONTROL

NAUFMA urges that Congress invalidate the 1978 Corps of Engineers' policy, which arbitrarily restricts the Federal interest in flood control, and, at the same time, direct the Chief of Engineers to study and recommend to Congress those criteria—including size of drainage area, amount of run-off and frequency of flooding—for determining the Federal interest therein.

Invalidation of the 1978 policy and the reqiurement for a study was called for in section 420 of H.R. 4788. Until such recommendations are made, and a policy enacted by Congress, the Federal flood control interest should be based on an engineering regulation adopted by the Corps of Engineers in 1972.

That regulation contains general guidelines for determining the Federal interest; that is, when the required capacity is greater than the 10-year design capacity and the facilities are not obviously storm sewers. Determination of the Federal interest in urban flood control should be a congressional, not an administrative, responsibility as a means of insuring equity among communities.

PLANNING AND PROJECT COST SHARING

On May 18, 1983, NAUFMA provided a statement to the subcommittee on the issue of cost sharing. In that statement, NAUFMA insisted that if State and local governments are to bear a larger burden, as perhaps they should, for planning and project cost sharing, then they ought to have a larger role in determining the nature and scope of the solution to be undertaken. This concept was endorsed by Secretary Gianelli in his June 15 appearance before the subcommittee.

NAUFMA also recommended that Congress be guided by the following principles in establishing a cost sharing policy:

First, insuring that worthy projects are not arbitrarily eliminated due to a lack of sufficient non-Federal resources, that is, cash contributions, if required, should be spread over a minimum of 15 years;

Second, giving credit against the non-Federal share for lands, easements, and rights-of-way, with the Federal Government sharing in the excess cost should they exceed a fixed percentage; and,

Third, fixing a ceiling on the non-Federal share at the time a project is authorized.

That is a tricky little maneuver to make sure it goes quickly because the Federal Government would be interested in avoiding additional costs due to inflation.

The fourth major area is accelerating the planning process, a certification procedure.

NAUFMA urges that Congress reenact, and extend indefinitely, section 134(a) of the Water Resources Development Act of 1976. This provision, which expired on December 31, 1976, permits local interests to construct compatible flood control improvements, and be credited or reimbursed accordingly, if they can reasonably be expected to be included with the scope of a later authorized Federal project.

Including such a provision would accelerate the planning process, through avoiding unnecessary delays when local governments have the capability to proceed.

ACCELERATING THE PLANNING PROCESS—CONTINUATION OF PLANNING AND ENGINEERING

NAUFMA urges Congress to reenact, and extend indefinitely, authorization for section 101(c) of the Water Resources Development Act of 1976. Under this provision, the Chief of Engineers is authorized to undertake continuation of planning and engineering, if he finds that the project is noncontroversial and justifies further investigation.

Although CP&E has occurred on projects since 1976, NAUFMA believes that specific authorization should be provided by law. This provision should also be viewed as a means of accelerating the planning process.

FEASIBILITY REPORTS

NAUFMA urges that Congress direct the Chief of Engineers, in the preparation of feasibility reports, to provide sufficient detail on which to base a construction authorization. The report should define with reasonable certainty: The engineering features, environmental benefits and detriments, the costs and benefits, icluding the objective set forth in section 209 of the 1970 Flood Control Act, the public acceptability, and the purpose, scope, and scale of the recommended project.

Such a provision, identical to section 401 of H.R. 4788, would do two things: Reemphasize the water resources planning objectives of the 1970 act; and provide better, more detailed reports on water resources projects, while reducing the time required for their implementation. Thus there would be one report and one authorization. However, should Congress determine that additional study is needed, it could so direct at the time a project is considered for authorization, so, you maintain a flexibility.

The seventh area is streamlining the study authorization procedures.

NAUFMA urges that Congress adopt the following provisions to streamline study authorization procedures:

Authorize the corps and Soil Conservation Service to participate in planning for urban watershed management as approved by Congress through reconnaissance studies to preliminarily determine the nature and scope of improvements needed, their approximate cost, economic and other justification, and the Federal interest therein.

Within 90 days of initiation, a reconnaissance report must be submitted by the Federal agency to a Federal resources coordinating body with recommendations concerning the Federal interest and for continuation of a survey-type feasibility study.

Within 60 days of receipt of the report, the coordinating body would assign to a Federal agency responsibility for continuation of the survey-type feasibility study, giving notice to affected State and local governments and the appropriate authorizing committees.

Feasibility level studies are authorized, if, within 30 legislative days, neither Senate nor House authorizing committee has adopted a resolution to the contrary, so it would keep the process moving.

Project proposals developed from studies by State or local government agencies may be eligible for implementation assistance if they conform with Federal policies, standards, and procedures for inclusion in the Federal flood control program, and are to be proposed for authorization in accord with established procedures through the appropriate Federal agency and the water sources coordinating body.

STREAMLINING PROJECT AUTHORIZATION AND APPROVALS

NAUFMA urges that Congress adopt the following provisions to streamline project authorizations and approvals:

For projects with a total cost of under $10 million and if the project meets the requirements of section 205 of the Federal Control Act of 1948, the Corps of Engineers may proceed with construction under the provisions of section 205, subject to fulfillment of requirements for local cooperation and availability of funds for construction.

For projects costing between $10 million and $50 million, the Secretary shall submit a report to Congress under procedures established pursuant to section 201 of the 1965 Flood Control Act which would be subject to the approval by resolutions of the Senate and House authorizing committees before being eligible to receive construction appropriations.

For projects having a total cost in excess of $50 million, reports would be transmitted to the Public Works Committee and would require legislative authorization before being eligible to receive construction appropriations.

What we are trying to address there some smaller projects that seem to have to go through the same process as a project of $100 million.

For any of the projects authorized under the above criteria, and upon approval of the Federal agency which processed the report, construction may proceed with locally advanced funds and be subject to reimbursement or credit to the local share in accordance with section 134(a) of the 1976 act.

WATER RESOURCES COORDINATING BODY

NAUFMA urges that Congress provide for the creation of an independent water resources coordinating body to take the place of the now-defunct Water Resources Council.

It is critical that there be an effective, independent mechanism for recommending to the President and the Congress policies and criteria which are necessary and appropriate to achieving national water resources goals.

Mr. Chairman, we have earlier provided the subcommittee with more detail concerning these recommendations. We commend them to the subcommittee's serious consideration and are confident that, if enacted, they will contribute to preserving, protecting, and enhancing our Nation's water resources.

I would be happy to respond to your questions.

As an aside, and as an example, there is a particular flood control project in the Denver metropolitan area, this urban project that with the committee's permission, I would like to leave a statement for the record on that as well.

I will not read it. I would like to leave it with the committee. It is included in the chairman's Senate bill 947, one of the several projects listed in that bill.

I will leave that with the committee, if I may.

Senator MOYNIHAN. Please do.

Mr. TUCKER. With that, we would like to respond to any questions that you may have.

Senator MOYNIHAN. I thank you, very much.

Thank you, NAUFMA. It is interesting. They abolished the Water Resources Council and the next thing you know we find that we are going to have to reconstitute it because there is a central planning and coordinating function here. You just cannot do it by the inspiration of the assorted committees and the widely diversified, diffuse authority in these matters.

The system is not working very well.

Mr. TUCKER. Yes; I believe that is correct. At the Federal level, there should be some way to bring together the various interests and opinions that are involved and filter those so that there is a mechanism for coming forward with recommendations.

Senator MOYNIHAN. Somebody who is interested in seeing this program go forward.

Mr. TUCKER. That is right.

Senator MOYNIHAN. So an institutional arrangement to look after this issue which otherwise disappears and you don't notice, it is not flooding and when it is flooding, you are too busy thinking about other things.

Mr. TUCKER. That is right.

Senator MOYNIHAN. You mentioned a number of items in the 1976 legislation which didn't have much in the way of appropriations associated with it. But it did have some good organizational, conceptual principles. We should look at them again.

In H.R. 4788, I have to say to you we probably should have paid more attention to that then we did.

Mr. TUCKER. That passed the House side. It didn't pass in the Senate.

Senator MOYNIHAN. We have not been passing legislation here.

Mr. TUCKER. That is right.

Senator MOYNIHAN. Sooner or later, someone is going to get mad at us. We try in this body, but we don't always agree with ourselves. Congress hasn't been doing much legislating, and has had continuing appropriations. That may change or it may not. But the problem is going to be there.

I thank you very much and your organization, Mr. Murphy, and Mr. Tucker, for giving us some hints about that 1976 legislation. We should get back onto that.

The idea of reconstituting some kind of executive branch organization strikes me as correct.

Mr. TUCKER. Thank you.

Senator MOYNIHAN. We share your views on this.

Mr. Donald Boyd, who is the director of the Kansas City Water Pollution Control Department and is president of the Association of Metropolitan Water Agencies.

Mr. Boyd, we welcome you to this subcommittee, and if you would introduce your associate.

STATEMENT OF DONALD R. BOYD, PRESIDENT, ASSOCIATION OF METROPOLITAN WATER AGENCIES, ACCOMPANIED BY KEN KIRK, ASSOCIATION OF METROPOLITAN WATER AGENCIES ASSOCIATION

Mr. BOYD. This is Mr. Ken Kirk, with the Association of Metropolitan Water Agencies, the organization of which I am president.

Senator MOYNIHAN. Mr. Kirk, we welcome you.

Mr. BOYD. Mr. Chairman, members of the committee, the Association of Metropolitan Water Agencies represents the interests of about 38 of the major metropolitan areas in the United States. We collectively serve about 33 million people from those systems.

We welcome the opportunity to provide the subcommittee with the capital needs of the water supply agencies. We commend the committee for its continuing interests in this area. It might be interesting to note that in 1900 Americans used about 5 gallons of water per person per day. Today they use 50 gallons per person per day. If you add industry and its products, it is 150 gallons per person per day. All of this has occurred with three times the population. We often wonder where it is going to come from, and how are we going to handle it.

We have submitted some written documents to the committee and I just want to summarize basically what we have.

Senator MOYNIHAN. Your written documents will be made a part of the record in full.

Mr. BOYD. There have been a number of surveys that have been made and I think the Association of Metropolitan Water Agencies survey pretty much parallels the others. It shows that the needs of our 38 members and approximately another 30 public agencies is about $78 billion over the next two decades.

Mr. BOYD. As you mentioned before these are items that are basically out of sight, out of mind, and they have no real sex appeal by the public as long as the water flows out of the faucet.

Senator MOYNIHAN. The day has not yet come when somebody has turned the faucet on and it hasn't come out and when that does you will find an association of the intelligent camera perons will be there fast.

Mr. BOYD. The needs of this survey really can be divided into three critical areas. First of all, the treatment and the process, second, the transmission and distribution of the water to the core areas, and third, the need for increased capacity of transmission mains to serve developing surburban areas which require of course the core area of the metropolitan areas to serve those areas.

We have submitted this survey and we hope to refine it further for your use.

Senator MOYNIHAN. We thank you.

Mr. **Boyd**. These capital needs are principally brought about by deferred maintenance. Nearly all of us have water plants that are 50 years old. Our pipe systems are at least that old.

Senator **Moynihan**. Can I interrupt to say that in Hoboken, N.J., they still have wooden pipes.

Mr. **Boyd**. I understand that they do. The biggest inventory of pipe in large metropolitan areas dates just after World War I when there was an immense migration to the cities. The 1920's will show that the greatest inventory of pipe occurred during that time. Since World War II there of course has been expansions out into the suburban areas and other political bodies. But most of those suburban areas are served through the core system.

The rehabilitation of those systems has largely been limited by the revenues that we have received because of the many other socioeconomic problems that exist in the major metropolitan areas. Not only have we not done anything about rehabilitating those plants that are old but they are in need of upgrading in the form of new treatment processes. If anyone is to visit Europe of recent you will find that they are doing modern day things, new treatment processes.

Senator **Moynihan**. This is not just replacing worn out machinery, this is developing new ones.

Mr. **Boyd**. That is correct.

Senator **Moynihan**. Techniques?

Mr. **Boyd**. That is correct, new disinfection methods, new forms of treatment.

Simply stated the economic impediments and the ability to secure adequate capital for water supply systems threatens to stymie the efforts to provide adequate and safe water supplies in the future. As you are awell aware, the municipal bond markets are in a shambles. Even if we can get bonds authorized it is difficult to sell them for any extended period of time. Even the Federal Government of course has that trouble in financing long-term debt and the large metropolitan areas I think provide themselves that in the past they have been self-sufficient in that they are supported entirely from the revenues that are derived from the sale of water.

Consequently we don't really seek a Federal grant program as such but we do support and urge Congress to provide the metropolitan area agencies with some sort of a financial means to accomplish these deferred maintenance problems.

Senator **Moynihan**. Such as the water bank?

Mr. **Boyd**. The water bank would be our real suggestion. I would leave the details of that to the staff as to the management of that and to how it could be worked out. But certainly I think that the large metropolitan areas should be assured of a fair share of that banking system so that it doesn't go to small systems entirely and to just serve a limited number of people. I think, Mr. Chairman, that concludes my testimony. If there are questions that you would like to ask I would be glad to respond.

Senator **Moynihan**. It is so generous of you to be succinct. I get to the point that you are thinking of $2.5 billion capital in such a bank, do I take it?

Mr. **Boyd**. Yes.

Senator **Moynihan**. And borrow up to 20 times its paid capital. So you are a little more specific here. And that would just barely do the job.

Mr. **Boyd**. Yes, sir.

Senator **Moynihan**. You can't put down pipe in the 1920's and expect it to be there a century later. It won't work. You must have leaky systems everywhere.

Mr. **Boyd**. We do, although to just say that the age of the pipe is the problem is not always the case. More often than not, to give you an example, over the recent 20-year period the use of salt to control snow on the streets has become a common practice. We are finding that in a number of major cities the pipe system is all right but the salt water enters the tubes that serve the valves and those valves or the bolts in the valves are steel and of course salt erodes worse steel under stress and those valves fail from that reason.

In Kansas City, Mo., we have such a problem. Just within the downtown loop system I have about 3,000 valves that are city responsibility. If I was to do nothing but to dig up those valves and just replace the bolts with stainless steel bolts and incapsulate the valve in a polyethylene bag which is the current practice of handling that matter, I would be talking about $3 million just to handle those 3,000 valves within my downtown system.

They are no longer reliable. We have time bombs which are going to go off and of course cause a major problem. That is just one of the problems of interest.

Senator **Moynihan**. Here you are with a situation where you know what your problem is, you know what you would like to do, your only constraint is resources and if you can't get the resources now, if you can't get the $3 million now, it will cost you $30 million 10 years from now.

Mr. **Boyd**. That is right.

Senator **Moynihan**. And it must be frustrating at times.

Mr. **Boyd**. It is.

Senator **Moynihan**. We are beginning to sense it, too, sir. We want you to know, don't fail to say hello to Senators Eagleton and Danforth as you make your way out of the Capitol. We thank you very much. It is very good testimony. It is more realistically, if I can say, I think $2.5 billion capitalized is what we should be talking about. People say what are we doing this for? We have all of these economic problems. Well, you build your economy on this infrastructure.

Mr. **Boyd**. Yes, sir. That is true.

Senator **Moynihan**. This is investment in the most elemental way. There is coming a time when there is not the kind of investment in plant and equipment that had been hoped for by the administration. We are producing at 72 percent of capacity right now. Steel is down at 29 percent of capacity last December. If we are going to put those to work we had better rebuild some water systems and look after our basic economic infrastructure. It is easy to do this.

Thank you, sir.

We are going to hear from the American Water Works Association, Mr. William Marrazzo, who is the commissioner of the Philadelphia Water Department, the most famous water department in America and certainly the handsomest. I am sorry. I am informed that the commissioner can't be here, that Mr. Thomas Walton, deputy commissioner is here.

STATEMENT OF THOMAS WALTON, DEPUTY COMMISSIONER, PHILADELPHIA WATER DEPARTMENT ON BEHALF OF WILLIAM MARRAZZO, COMMISSIONER AND JAMES GROFF, DEPUTY EXECUTIVE DIRECTOR, AMERICAN WATER WORKS ASSOCIATION

Mr. WALTON. That is correct. With your permission I will speak on the commissioner's behalf.

Senator MOYNIHAN. Of course. Would you introduce your associate.

Mr. WALTON. I will indeed. I have with me Jame Groff who is deputy executive director of the American Water Works Association.

Senator MOYNIHAN. Good afternoon. We welcome you to this subcommittee. I repeat the Philadelphia Waterworks is certainly the most readily identified, widely part of our architectural as well as our engineering history. But don't let me get off on that subject.

Mr. WALTON. Thank you, Senator. We do have a rehabilitation program going on.

We hope we have considerable success with it. I would like to give you the commissioner's apologies. He is involved in some negotiations and simply was not able to get away. I thank you for allowing me to speak on his behalf.

The American Waterworks Association welcomes the opportunity to appear before you today to express our views on urban water supply funding. I am Thomas Walton, deputy commissioner of the Philadelphia Waterworks Department, speaking for William Marrazzo, commissioner and members of the association's water utility council. We have already submitted written copies of the prepared testimony. I, as the previous speakers, will not trouble you by reading it all.

Senator MOYNIHAN. It will be placed in the record.

Mr. WALTON. Thank you, sir.

What I would like to do is summarize that testimony as it relates to three concerns that I believe this subcommittee has: The need for rehabilitation and new construction in urban water supply systems, the financial capability of the utilities and municipalities to meet those needs, and the implications of cost sharing alternatives on those municipalities and utilities.

It is a widely held belief that some of the Nation's major water supply systems are in a serious state of disrepair. The American Water Works Association undertook a survey to develop a picture of the real state of that part of our infrastructure, the drinking water industry across the Nation, covering not only the new systems of the Southwest, but the so-called old systems of the Northeast, and looking at municipal, special purpose governments, and private utilities as well.

We obtained 33 responses to this survey from water suppliers covering a total of 12,200 square miles and serving almost 33 million people. The replacement value of the facilities represented is about $30 billion.

The most significant results include the fact that 14 of those 33 respondents believe that the current state of repair of their systems is adequate, that deferred maintenance in any significant volume does not exist. Those who acknowledge deferred maintenance, acknowledge an estimated total of $3.9 billion. They are individually confronted with estimated needs of from $7 million on the low side to $900 million on the high side. Fourteen of those nineteen already have plans to restore their facilities over periods ranging from the next 5 years to the next 35 years. Of the five which have no plan, only one cited lack of funds as the reason for not restoring the facilities.

That says something, I think, about the financial capability right there. To look more closely at it, the survey found that, of the utilities which did acknowledge deferred maintenance problems, with one exception, they would be able to eliminate the backlog through construction programs over a 10-year period, financed by revenue bonds. The debt service on those revenue bonds could be met by water revenues, necessitating rate increases of as little as 1 percent in some cases to as much as 36 percent at the other extreme.

More than half of the utilities with deferred maintenance also have residential water bills which are below the average of the utilities that responded to the survey, I think the average was approximately $10 a month, or $113 a year.

Coincidentally, the utility which reported the highest estimate of deferred maintenance also happened to be the one with the lowest monthly residential water bill. All other things being equal, that utility, as well as the others, could increase its charges to a rate approaching the average and fund virtually all of its deferred maintenance.

I guess what this says is that, unlike wastewater treatment, water supply is not a highly expensive commodity to its individual customers at this point. The respondents' average monthly bills ranged from $3.40 to $13.75 for a typical residence.

I think the conclusion from that is that water service charges by public and investor-owned utilities can, in all but a very few instances, be increased, without exceeding the user's ability to pay, to eliminate deferred maintenance.

This might seem to make your third concern, that of cost sharing, largely an academic issue, because we are saying that infrastructure problem, as our survey defined it, is a manageable problem within the resources that we have. That is largely true.

The association believes that there is no need for a major Federal grants program targeted at outright cash grants to fund rehabilitation of urban water supply systems. We believe that it would be inappropriate to establish such a program. Lack of funds in the absolute sense is not a major problem, since the funding can be generated over time from rates.

At the risk of sounding like the same old song (although it may give you some comfort to have some unanimity among your participants) access to capital funding can be a problem. Here it may be appropriate for Congress to define a role for Federal and/or State Government, not in sharing the cost of the work but in assisting with the burden of initially financing it.

For example, unique local conditions applying to a particular utility may limit that agency's access to capital markets, causing unusually high borrowing rates. Small utilities which suddenly find themselves requiring improvements to meet the health requirements of the Safe Drinking Water Act may face unusual financial hardships. Investor-owned utilities do not enjoy the tax exempt financing ability of the public utilities, and yet some of them may face the same kinds of infrastructure rehabilitation challenges that we as municipalities do. Whatever assistance is provided should be extended to private utilities when they demonstrate the same types of needs.

The association believes that a program of loans made by the States to local utilities, or preferably borrowing engaged in by local utilities with repayment guaranteed by the States and with seed money provided by the Federal Government, perhaps in the form of the water bank that has been previously mentioned, would be sufficient to help the drinking water industry in general. It would also then be able to deal with most of the special problems that I also alluded to. We think a loan program of that sort would be an effective way of aiding local utilities, keeping down the costs of water service, while, at the same time, allowing those with deferred maintenance to restore their systems to an adequate and reliable state of repair.

There is one other aspect to the cost-sharing question which I would like to touch on briefly. I should say that the association did not consider this particular comment of mine in detail and you should treat this remark, if you would, and if you don't mind my making it, as coming from a major northeastern water and wastewater utility and not from the American Water Works Association.

You will recall that I said that the one large utility with the lowest water rate could raise rates and handle its deferred maintenance in that way, all other things being equal. Often in the water business, of course, they are not equal. I think one reason is the country's historical tendency to take a fragmented approach to water resource management, to treat the water quality side and the water quantity side as two different things through different programs and different agencies.

In Philadelphia, we are particularly conscious of this because, as well as our three water filter plants and 3,000 miles of water main, we operate three wastewater plants and an equivalent 3,000 miles of sewer line. Our wastewater treatment costs are currently two to three times the cost of water supply. This is largely for two reasons. One, of course, is compliance with the goals of the Clean Water Act. We have had the assistance of 75 percent Federal funding. However, funding our 25 percent share imposes a substantial burden on our ability to borrow large amounts of money from year to year.

Second, compliance with the moritorium on ocean disposal of sewage sludge has tripled unit costs of sludge disposal at the same time that our improved treatment is tripling the volume of sludge that we produce.

In those circumstances, we, and I imagine others in our situation, have had to defer water system maintenance as a matter of management judgment more than we would like to, because we cannot impose on our customers the simultaneous burdens of the debt service that would be required for both tasks.

In 1987, in Philadelphia, when the wastewater treatment plant construction is largely complete, we will be able to accelerate our rehabilitation program in the water distribution system, approximately doubling the annual rate of expenditure from $9 million to about $18.

We believe we can keep our system in a reliable condition by doing that. Fortunately, it is in relatively good shape at this point. We have a few wooden water mains in the ground too, with no water running through them. We dig them up by accident on construction projects. I only want to raise this point because I think that, within the realm of water resources, and the more popular and broader realm of infrastructure at the moment, this argues for a comprehensive and flexible approach, so that whatever financial assistance, be it in the form of the sewage construction grants program, or a water bank or a loan program, can be spent in the most cost-effective fashion.

I appreciate the opportunity to appear here today and I would be happy to answer any questions.

Senator MOYNIHAN. Thank you, very much.

Can we get a copy of that survey? We have it here. I am sorry.

Senator MOYNIHAN. Let me just ask a question about financing.

We are in a situation and we are going to stay in a situation where municipal financing is going to be competing with the fierce Federal share of the credit markets, 57 percent this year.

It is not bothering us so much this year because we are in the middle of a recession still, or the tail end of one. But the idea of a water bank; it is refreshing to have a century-old association come forward and say we can handle our affairs pretty well.

But would you agree? Of course you speak as professionals. Mayors tend to have different problems.

Would you think a water bank would be a useful device?

Will you be borrowing money to do the deferred maintenance you are thinking about?

Mr. WALTON. I don't know that it is the only mechanism to accomplish the kind of purpose that we have suggested. But, certainly, it is a logical, feasible one to do it.

In the city of Philadelphia, we have established a renewal and replacement fund. We have been trying to shift our financing to shorter term and to self-generated funds where we can.

We would certainly look at a water bank as a possible source of lower cost, shorter term funding.

Senator MOYNIHAN. I thank you.

Please?

Mr. WALTON. The only other thing I would like to reiterate, if I could, I said already once. I think we want to be sure that if such a bank is established, the investor-owned utilities——

Senator MOYNIHAN. Are eligible.

Mr. WALTON. Are eligible.

Senator MOYNIHAN. It would be interesting to know why the electrical systems and the telephone systems are investor-owned and water systems used to be and aren't.

The problems of all of the municipal history, I will never know.

We thank you, very much, gentlemen. It is good factual testimony.

Finally, a panel of engineers for the American Society of Engineers, Dr. Daniel Sheer and for the American Consulting Engineers Council, Mr. Richard Harza, accompanied by Holly Cornell.

Gentlemen, very good afternoon to you.

Dr. Sheer?

You are first. So we will put you on. Then Mr. Harza will be next.

STATEMENT OF DR. DANIEL P. SHEER, DIRECTOR, SECTION FOR COOPERATIVE OPERATIONS, INTERSTATE COMMISSION ON THE POTOMAC RIVER COMMISSION AND CHAIRMAN, WATER RESOURCES SYSTEMS COMMITTEE, AMERICAN SOCIETY OF CIVIL ENGINEERS

Mr. SHEER. Thank you, Mr. Chairman.

Senator, first I want to thank you for asking The American Society of Civil Engineers to assist you in your deliberations today. I personally appreciate the opportunity to be here.

My name is Dan Sheer. I am the Director of the Section for Cooperative Operations of the Interstate Commission on the Potomac River Basin. I am chairman of ASCE's Water Resources Systems Committee and our operations task force and I also serve as a member of the National Research Council, Water Science and Technology Board.

I speak here today for myself. Our infrastructure as you well know, Senator, is our second most valuable national resource. It is a second only to our people. It has value in terms of the benefits that it will provide to us over the years. That value is perhaps ten or more times larger than the value of all public works we will construct in the next 20 years.

The infrastructure must be maintained. That is what this hearing is about. That is what you have been hearing today. It must be expanded to meet our growing needs. We need additional expenditures in these areas. But, just as important in terms of benefits and much less expensive in terms of dollars, we must improve the operations and management of our existing facilities.

This is not to say that we should do away with the construction program. It is not to say that any particular project is poorly managed. Rather, particularly in the water area, lack of incentives, lack of institutions with appropriate responsibilities, and lack of trained people causes us to ignore the potential for improving the management and operation of our existing facilities or our existing infrastructure.

Activities that are aimed at better utilizing this existing vast resource are likely to yield the highest return on the dollar.

My written testimony shows by example——

Senator MOYNIHAN. That will be placed in the record.

Mr. SHEER. Thank you, Senator.

The state of the art of management and water infrastructure has improved dramatically over the past few years, that the benefits that can be gained by implementing state of the art are enormous, particularly relative to the cost.

Senator MOYNIHAN. This will seem very untoward, Dr. Sheer, but I am called to the floor in a sudden emergency. I am going to have to recess this hearing for 15 minutes. Would you mind, gentlemen? I don't have any choice. We will stand in recess for 15 minutes or less.

[A brief recess was taken.]

Senator ABDNOR [presiding]. The meeting will come back to order. We apologize for the delay but Senator Moynihan is working on something very crucial to him and I had to be at another meeting. Hopefully we haven't delayed you too long.

Our next witness is Dr. Scheer and Dr. Harza. We are happy to have you here. Again, we apologize for the delay. Do each one of you care to go first? You have already started, Dr. Sheer. I am sorry.

Mr. **Sheer.** No problem, Senator Abdnor, I will start again if I may. I want to thank you for inviting the American Society of Civil Engineers to assist you in your deliberations today. I personally appreciate the opportunity to be here.

My name is Dan Sheer. I am the Director of the Section for Cooperative Operations of the Interstate Commission on the Potomac River Basin. I am chairman of ASCE's Water Resources Committee and its urban research operations task force and am a member of the National Research Council National Technology Board.

The opinions I express here today are my own. Senator, our infrastructure is our second most important national asset. It is second only to our people. It has value in terms of the benefits that it will provide us. That benefit is 10 or more times greater than the value of all public works we will build over the next 20 years.

Our infrastructure must be maintained and expanded. We need additional expenditures in these areas. But, just as important in terms of benefits and much less expensive in terms of dollars, we must improve the operations of our existing facilities. That is not to say that any particular project is badly operated or that we should abandon the current construction program. It is to say that, in the water area particularly, the lack of incentives, lack of appropriate institutions with appropriate responsibilities and lack of trained people causes us to overlook the potential for improving the operations and management of our existing infrastructure.

Activities aimed at managing that vast asset will have by far the highest return on the dollar.

My written testimony shows clearly that the state of the art of management of water infrastructure has improved drastically over the past few years, that the benefits which can be gained by implementing the state of the art can be enormous, particularly relative to costs, that a modest Federal program to encourage the implementation of improved operations will greatly reduce the time required for implementation of analysis; that institutions which allow the analysis of joint operations of facilities which are owned or operated by independent agencies will prove invaluable, that operations of existing projects are vital to our considerations of future projects, that there is a shortage of people with the training necessary to convert the state of the art to the state of the practice and that the return on investment for those dollars spent in improving operations will be quite large.

I put before you the following three proposals: One, form a technical task force responsible to both the legislative and executive branches which reviews the operations of each and every Federal water project at least once every 7 to 10 years, and make the members of that task force at least partially responsible for implementing the recommendations which are accepted.

The reviews which are done must address the operations of projects both individually and for larger systems, including non-Federal projects. They should also concentrate on operations which fall within the existing authorizations of the projects but also consider operations under modified authorizations, Federal, State, and local.

Second, establish a program of demonstration grants for larger water utilities, authorities, and municipalities to encourage the analysis of operations. The grants should require those recipients to thoroughly document their experiences and commit them to participate in technology transfer.

Third, I urge you to assist the States and river basin commissions in establishing programs to help small utilities improve operations and examine the potential for improving operation by coordinating or combining the operations of separate systems.

The main limitation on our ability to analyze and improve our water infrastructure operations and management is the lack of trained people. Because of that the amount of money which can be well spent is small, between $10 and $20 million annually. That is a small fraction of a percent of the total budgets on operations and construction.

Senator, the cost of providing the opportunities and incentives that will lead to improve management and operations of existing infrastructure will be quite modest. The awards will be substantial.

I thank you for this opportunity to speak here. I have submitted my written testimony which contains many examples. An illustration of the problems involved is included. I will be happy to answer any questions either orally or in written form for the record.

Thank you again for the opportunity to speak.

Senator ABDNOR. Thank you. It is a very interesting statement. I assure you the written statement will be made a part of the record. It is very interesting information.

Dr. Harza, we will proceed with you.

STATEMENT OF RICHARD D. HARZA, PRESIDENT, HARZA ENGINEERING, REPRESENTING THE CONSULTING ENGINEERS COUNCIL, ACCOMPANIED BY HOLLY CORNELL AND LAURENCE D. BORY

Dr. HARZA. Thank you, Mr. Chairman.

Mr. Chairman, members of the Subcommittee on Water Resources, my name is Richard D. Harza, president of Harza Engineering Co. of Chicago. Our firm specializes in the design of dams and water resource projects.

With me is Laurence D. Bory, deputy director of governmental affairs for the ACEC.

Mr. Holly Cornell, who was listed, regrets that he is unable to attend this hearing.

We are pleased to have this opportunity this afternoon to address cost-sharing as it relates to urban water supply. The American Consulting Engineers Council, ACEC, endorses S. 1031, the Water Resources Policy Act of 1983, and urges amendments to it which will require Federal agencies to rely more on the private sector in the development of water resource projects.

I will make a brief general statement about Federal water projects policy and then specifically describe a major urban water supply project totally funded by local sources to show that 100 percent cost-sharing can and does work.

We ask that our entire statement be included in the record.

The ACEC is an association of 3,800 private engineering firms employing 120,000 engineers, scientists, and technicians. More than a quarter of our member firms are civil engineering firms that perform planning, design, and construction management services for water resources projects. Dams and reservoirs, locks, hydropower generating facilities, stormwater basins and drainage systems, irrigation systems, ports, harbors, and marinas, water and wastewater treatment and supply systems, groundwater recharge projects and aquifer monitoring and control systems, are designed and built with the technical expertise of consulting engineers.

ACEC and its members have observed four trends in recent years that threaten the future development and maintenance of our water infrastructure:

1. An increasing reliance and dependence upon Federal funding for water projects of all kinds;
2. An increasing demand for uniform national standards of criteria for design of water projects which would inhibit tailoring projects to local conditions and applying innovative design criteria;
3. An increase in the time and money needed to construct water projects due to the bureaucratic delay that accompanies Federal involvement; and,
4. A neglect of rehabilitation, maintenance and upgrading of existing water resources facilities because Federal funding focuses on new construction. The deteriorated condition of the Nation's water infrastructure is in part a result of the political attraction of new construction starts.

Water projects funded through the Corps of Engineers, the Bureau of Reclamation, the Tennessee Valley Authority and the independent power commissions have an abysmal record of delay and inflated project costs.

A recent General Accounting Office (GAO) report suggested that the Corps of Engineers could achieve greater savings through increased use of value engineering.

The average federally funded water resources project does not receive construction funding from Congress until more than 20 years after preliminary feasibility studies are authorized.

Each year, agencies must ask Congress again for funding of ongoing projects, making the financing of water resources projects essentially a political process. Need, technical feasibility and cost-effectiveness, not politics, should be the primary determinants in selection of projects for funding, as the ACEC supported 1982 revisions to the Department of the Interior's water criteria and guidelines stated.

ACEC's members believe local funding through cost-sharing can alleviate many of the problems outlined above.

Specifically, the cost-sharing concept incorporated in S. 1031 would reduce project costs and accelerate completion by:

Acceleration of feasibility studies:

Local funding of feasibility studies can cut as much as 5 to 7 years off the current 20-year plus average. Many projects languish for years while the corps establishes its own internal priorities.

Early completion of preliminary studies by private engineers would permit projects to be accelerated toward design approval, and eliminate non-cost-effective, technical solutions from consideration. This can save 20 to 30 percent of final construction cost in inflation alone.

Advanced purchase or options on land acquisition:

Many federally funded projects struggle through the funding process only to be further delayed because necessary land acquisition, rights-of-way or condemnations have not commenced. Beginning of the land acquisition process after completion of the feasibility studies may save 25 percent in land inflation and forestall speculative purchase in anticipation of Federal funding.

Advanced commitments of local financing:

Establishing a source of local financing in advance of construction approval can also save time and money. Creation of an industrial development authority and preparation of a private investment package (often called privatization") plan in advance can significantly reduce costs and stimulate local interest and business support for the project.

Advance local financing also encourages ancillary taxable investment directly resulting from the project. This may save an additional 10 percent.

Local financing of design using local private sector engineers and local participation in construction, such as advance purchase of equipment, are other examples of cost-sharing strategies.

It has been conservatively estimated that cost-sharing could reduce project completion times by more than half and total project costs by more than 60 percent in inflation-related savings alone.

Local funding can be accomplished through user fees that reflect the value of the water service. The Federal Government can create incentives for beneficiaries of funded systems to repay the local share and the operation, maintenance, capital replacement, and rehabilitation costs. This will not only reduce the demand for Federal funds and the pressure on the Federal deficit, but spread the availability and incentive of Federal funds further.

The Reagan administration has consistently asserted that federally funded projects that have an identifiable group of local beneficiaries should be required to share costs if they are enterprise derived—that is, if fees are generated from the Federal facility or service.

ACEC supports this position. Most water projects primarily benefit local, not national users but such national interests as economic development, energy generation, improved navigation, and water quality improvement are generally also served by water resources projects. The funding ratio between Federal and local sources should, ideally, reflect the proportionate local and national benefit.

Is cost-sharing practical, can it be the basis for significant water project development? ACEC believes it not only can, but does, and offers an example of a project that was financed through local enterprise funding without any Federal participation and, consequently, at substantially less cost and far less time.

In the late 1960's, the Bureau of Reclamation did some preliminary studies for a major water supply and flood control project on the South Platte River in Colorado. The project contemplated a high and low dam to capture snow melt and provide municipal as well as agricultural water for Denver and the surrounding area. It would also complement an existing flood control reservoir.

It became clear that Federal funding for the project was going to be a long-term proposition. The Denver Water Board decided that the Foothills portion of the project, including the lower dam of the reclamation scheme was too important to rely on the distant and future chance of Federal funds.

Since this was critical for a reliable source of water for municipal and industrial purposes for the city and its expected rapid growth, the Water Board decided to undertake the project itself.

After additional analyses for location cost and engineering features, it was decided to design and build a system with three major components: (1) A dam and impoundment on the South Platte River; (2) a water supply tunnel to take water from the dam; and (3) a treatment plant which would eventually double the total water available to the city.

The Denver Board of Water Commissioners selected three private sector engineering firms each with specific experience and skills to plan and design each project component:

Harza Engineering Co., Chicago, Ill., my own firm, was selected to design the dam. We decided a double curvature thin-arch concrete dam was the most appropriate cost-effective and efficient technology.

The Strontia Springs Dam, by its unique design, uses less than half the concrete of a traditional dam. Its location provides an assured water supply for Denver fed by gravity to virtually eliminate pumping. Hydroelectric generation can be added later.

The design was developed using up-to-date computer models which permitted testing a wide variety of alternatives to combine safety, cost-effectiveness and ease of construction. Design and construction were completed in 7 years, and our estimates were less than 1 percent different from the $36.4 million construction cost.

DMJM/Phillips, Reister, Haley, Inc., Denver, Colo., were chosen to design the water supply tunnel. This 3-mile-long, 10.5-foot-diameter, concrete-lined tunnel connects the intake tower behind the dam with the treatment plant. Design and construction required 9 years and cost $22 million, $2 million under design estimates.

CH2M Hill, Corvallis, Oreg., designed the treatment plant. The plant is fully automated and computer controlled and provides water of quality which exceeds EPA drinking water standards.

The 125 million gallons per day are treated which increases the total treated water capacity of the city by 25 percent. The design contemplates three additions to the plant capacity, one of which is now under construction. This addition, also of 125 mgd, will increase the city's capacity to 750 mgd. Ultimately, the plant will double the treated water capacity.

The plant has several innovative design features which save significant operating costs:

A 3,000 kW hydroelectric turbine installed in the headworks—the point at which the water supply tunnel enters into the treatment plant—driven by the raw water flow, generates all the electricity needed to operate the plant with surplus sold to a local electric utility. Estimated annual savings are $400,000.

Because the plant was located several hundred feet above the city power to pump finished water is reduced 38 percent an estimated annual saving of $1.1 million.

The plant can be run by only two operators. Automation of processes and computer run instrumentation assures maximum efficiency of chemical and energy utilization and reduces unnecessary labor costs.

Management data gathering and analysis such as inventory control, maintenance schedules, permit compliance statistics are also built into the system.

The plant was completed for $50 million consistent with design estimates and was delayed only by a 4-month construction strike. Finished water was available to the system in June 1983, as projected in the schedule.

Finding a comparable federally funded project would be very difficult. But based on conservative averages, we estimate that this project which cost over $108 million and took approximately 10 years to design and construct would not even have been approved for design had the city chosen to await Federal funding.

Using a very conservative 20-year planning-to-construction cycle and an inflation rate of 6 percent, the project would not have been completed until 1996 and would likely cost more than $228 million. This does not include increased costs due to Federal requirements such as Davis-Bacon and other social and environmental regulation.

We suggest, therefore, that the following principles be added to the water resources legislation to accomplish the important national objectives we all desire in water develpment:

1. Greater reliance on the private sector, especially for engineering and other technical services, such as value engineering;
2. Encouragement of innovative and creative designs that increase cost-effectiveness; and,
3. Greater flexibility in national standards in response to local conditions or professional judgment.

These changes are in the public interest because private consulting engineers and construction contractors have unparalleled experience in designing and building water projects for both public agency and private industrial clients, such as power companies.

I might say many of them have acquired some of their experience in overseas assignments where we must compete on a worldwide basis and do keep up to date with the latest technologies as a competitive necessity.

Their record for cost-effectiveness, innovation and on-time, under-budget completion cannot be matched. Local governments and private beneficiaries which will be paying between 35 and 100 percent of the cost under the cost-sharing proposal should have the benefit of private sector engineering skill and know-how.

The realization of the Federal-local partnership envisioned by the proposed legislation will be aided immeasurably by the participation of the private sector. The Corps of Engineers and the private sector have worked together to build water resources projects throughout the United States and across the globe.

It was not so long ago that our water projects were the envy of and model for the world. Inflation, delay and excessive Federal spending have eroded some of that leadership. But renewed and reformed Federal cost-sharing policy can make local governments and States partners in that leadership position, not dependents in a Federal water welfare program.

We appreciate the opportunity to present our views on this legislation.

We would be happy to answer any questions.

Senator **Abdnor.** Thank you, Mr. Harza.

One of the principal purposes, for calling this meeting, is talking about the need of a water bank loan program of some kind for some of these situations.

Some of the situations like Denver, you said they financed everything on their own?

Mr. **Harza.** There was no such facility available and they were able to——

Senator **Abdnor.** How did they do it? Is that something other cities can do? Are they in a unique situation?

Mr. **Harza.** I cannot speak for all cities. But, generally, it has been said in some of the other testimony, generally municipal water is a commodity which is sold and paid for, generates revenue and in the most cities that we know of, they can get enough revenue from that to provide for their planning and engineering services. That forms a basis for municipal bond funding.

Senator **Abdnor.** Do you agree with that, Dr. Sheer?

Mr. **Sheer.** The AWWA position presented earlier said that very strongly and many cities are in financial shape to finance improvements in the water supply. The basic problems, as cited in the AWWA testimony, are in those cities which have less than adequate rate structures to recover the cost of providing water. Water is a commodity as Mr. Harza has said.

Senator **Abdnor.** Is there quite a variance in the rates charged from city to city?

Mr. **Sheer.** Oh, yes.

Senator **Abdnor.** Do most of them carry a reserve or anything like that to carry out future projects or replacements?

Mr. **Sheer.** The answer to that question is generally no. Most cities do not carry a contingency reserve for future projects. Projects are also not charged on a replacement value. They are charged for an existing capital costs, existing capital costs are much lower than replacement costs and there is no provision to my knowledge in most cities for replacement of facilities such as treatment plants. They are funded as needed.

Senator **Abdnor.** Do you think the water bank program, the loan program, would be a feasible program, or is it even necessary?

Do you think it is a necessary matter here to have available for cities if they are going to carry on the program?

Mr. **Harza.** From our experience, it wouldn't be vital in the area of water supply. Maybe there is a question of waste water or other things that don't produce the revenue.

Mr. **Sheer.** Senator Abdnor, Mayor Ted Wilson of Salt Lake City was here earlier and spoke of the need for financing, for example, flood control on a local basis. That is extremely necessary. Flood Control is an area in which Federal assistance is warranted and generally needed.

Water supply is a special case in that it is one of the few commodities that is really marketed at or near at least existing costs for most cities, not replacement costs but at least existing costs.

Most cities charge at least enough to cover their existing expenditures.

Mr. **Bory.** Senator, may I add one thing to that?

In the experience of many of our members the problem is one of rate reform in many places. If there is a problem, as the gentleman from Philadelphia stated earlier, it is a question of access to the capital markets.

The base is definitely there if a long-range planning program is set up, as the city of Denver set did with the project that we have described.

Most of the major cities certainly have the base and wherewithal to do that. Of course, the Farmer's Home Administration has had a rural water program for a number of years. This is a loan program, primarily, which has increased the access to capital for the smaller communities that have a difficult time getting bond ratings or generating the capital necessary for a complete system.

Senator ABDNOR. Thank you.

Mr. Harza, you mentioned the private sector for planning and engineering.

Are there cities free to go out and get private firms to plan and design?

Mr. HARZA. Of course, in most cases, they are. Sometimes Federal agencies will offer services to a municipality for which we can compete. That is the best way to say it.

Senator ABDNOR. Most of these are corps projects?

Mr. HARZA. Corps and in this case, the Bureau of Reclamation. The Bureau is, of course, headquartered in Denver, and they started studying this water supply project for the city of Denver. They probably still would be studying it, had not the city decided to build it.

Senator ABDNOR. In other words, the door is shut in a lot of potential planning and designing of projects whether it becomes a corps or Bureau project. It is difficult.

Mr. HARZA. It has been a problem with us in the past. However, now that the municipalities realize the timeframe, it is going to take them 10 or 15 years to get a project even started.

We are having less of a problem. We in the private sector are having less of a problem with that now.

Mr. BORY. Senator, one of the issues we are discussing with the corps and the Bureau of Reclamation is acceleration of feasibility studies and the planning process, particularly on smaller projects. The corps and Bureau of Reclamation contract out these studies to the private sector.

We are concerned that the Corps of Engineers and Bureau of Reclamation are being considered for additional local project authority by the Congress. Local governments should have the option under these programs especially when under cost sharing they are going to be picking up a substantial cost of the project—to have the option of contracting with a private sector engineering firm rather than waiting for the availability of resources by either the corps or the Bureau of Reclamation.

Senator ABDNOR. Just one thing.

On these wastewater plants, that allows it to be done privately in that area.

Mr. HARZA. That is almost entirely in the private design area. Water supply both from the municipal and agricultural water is divided between the public sector and the private sector.

Senator **Abdnor**. One last question:

Are most of the cities, metropolitan areas of this country in need of the improved water systems?

Are some of them pretty current? How about New York, Baltimore, Los Angeles?

As a whole, would you say the cities are in dire need of some upgrading of their water system?

Mr. **Sheer**. Senator, there is a substantial need for rehabilitation of the existing systems as well as cited in the CBO report which was put with the hearings, a substantial need for expansion.

In the Washington metropolitan area, we face that need for expansion. The corps has a very unusual responsibility here in the Washington metropolitan area in that it is actually a water supplier, the raw water supplier for the District of Columbia and Arlington.

The corps began studies in 1955. The first study was completed in 1963. It was a full development plan as requested by the Congress. It proposed 16 reservoirs and most of the water in that was for water quality management.

In the 1970's, water pollution control acts, need for much of that water went away. The corps recommended using its current planning procedures that two additional reservoirs be built. Those reservoirs were quite unpopular upstream. However, later on in the 1970's, a number of agencies working together discovered that by joint operations the single reservoir that was constructed by the corps and the local utilities reservoirs, we could essentially solve the problem. All we will build is one very small local reservoir at approximately 10 percent of the cost.

There is a great need for a Federal-State-local partnership in water supply; that is, I believe the aim of the bill. Whether or not it goes through a bank is another question. It is very important when you consider these things that you consider what can be done, by Federal and State and local operating jointly.

Senator **Abdnor**. I am sure this subject is going to be discussed immensely. We certainly appreciate your willingness to come and testify today.

Again, we do apologize for the delay and keeping you waiting. But we thank you very, very much for your appearance.

The committee will stand in adjournment.

[Whereupon, at 4:10 p.m., the subcommittee recessed, to reconvene at the call of the Chair.]

[Statements submitted for the record follow:]

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STATEMENT OF

THE HONORABLE TED WILSON
MAYOR OF SALT LAKE CITY

on behalf of

THE UNITED STATES CONFERENCE OF MAYORS

on

WATER RESOURCES AND THE CITIES

before the

SUBCOMMITTEE ON WATER RESOURCES

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

June 28, 1983

Mr. Chairman and members of the Subcommittee, I am Ted Wilson, Mayor of Salt Lake City. I am here this morning on behalf of the U.S. Conference of Mayors, which is composed of the nation's principal cities. Within the Conference I serve as a Trustee and as Chairman of the Committee on Energy and Environment.

Urban water policy has been one of my chief preoccupations in my two terms as Mayor. In 1977 I was active in working with the federal government to relieve some of the impacts of the drought which afflicted many of our cities. Following that, I was pleased to serve, along with Mayor Ed Koch of New York City, on the President's Intergovernmental Water Task Force. And of course, I have spent a good part of this year preparing for, and dealing with, the aftermaths of floods in Salt Lake City and the sourrounding areas.

With the permission of the Subcommittee I would like to take a moment to say that I am extremely proud of the job we did in Salt Lake City in recent weeks. All elements in our city -- citizens, school kids, all government agencies, and business pitched in to help with the preparations and emergency work designed to save lives and property. Given the heavy snowfall all winter we had every reason to believe that the situation we ultimately faced would occur and to the maximum extent possible we undertook the planning and physical work necessary to properly manage a crisis that threatened to be a disaster of awful proportions.

Water policy will often be the victim of circumstances beyond control. We learned that in Salt Lake City this spring. But though we must take into account the extremes of nature in our overall policy, the proper planning, management, and financing of our water infrastructure can make a difference. That will require a new intergovernmental commitment, partnership and resources to improve our urban water supply and flood control capability.

The U.S. Conference of Mayors commends this Subcommittee for going forward with an urban water hearing this morning. Hopefully, this is just the first step towards enacting legislation this year to begin to deal with this need.

Toward an Urban Water Resource and Flood Control Policy.

Now is the time to deal with urban water resource and flood control needs. In the absence of a separate approach targeted to the overall problem of urban infrastructure, we believe it is appropriate to develop an urban water policy and program within an omnibus water resources legislative package.

Regretably, Congress has been unable to enact omnibus water legislation since 1976. The backlog of much needed projects and resources is well known to this subcommittee. Our purpose this morning is to focus on the outline of elements which such legislation should contain if it is to be relevant to the broad and diverse needs of the nation's cities.

The Army Corps of Engineers Mandate. The Army Corps of Engineers, by virtue of its technical expertise and experience, should be poised to help cities with their water problems in a vigorous way. But it is not. We believe this is the case because Congress has not provided the Corps with the legislative mandate to do so. Omnibus water legislation should affirmatively state the national interest in urban water supply and flood control problems and direct the Corps to get energetically involved in this area.

Reimbursement for Locally Initiated Work. Cities could begin work on water supply and flood control problems now if there was a possibility for partial reimbursement at some later point by the Corps if projects met certain criteria. This authority was included in the 1976 legislation but expired approximately one year after enactment. Such authority should become a key part of any new omnibus legislation.

Planning. Cities also believe that the planning program under existing Corps authority should be permitted to continue. While planning benefits are nullified unless followed by effective program implementation, planning funds have, and will help to ensure, a level of quality in the expenditures ultimately made.

Cost Sharing. As a matter of principle, Mayors can support the concept of cost-sharing for water projects. Cities have benefitted from a wide variety of targeted federal efforts in the areas of transportation, housing, community and economic development and environmental quality; many of those have had state and local matching shares. A cost sharing approach is reasonable, so long as lands, easements and rights-of-way are taken into account in calculating the local share.

Federal Water Bank. Mr. Chairman, the points I have just discussed are important, but of secondary importance compared to the heart of the recommendation we bring to you this morning. As an outgrowth of my work on the Intergovernmental Water Policy Task Force, the U.S. Conference of Mayors has adopted policy calling for the establishment of a Federal Water Bank to provide a dedicated source of capital for the financing of urban water system improvement and expansion and flood control.

Such a program could be run by the Army Corps of Engineers, and be available to municipalities in the form of low-interest loans, with a local share required, and for projects based on sound planning. We believe such an urban water bank could be the catalyst which could bring about the rejuvenation of urban water systems in this nation. With a new urban mandate for the Corps, and a financing tool such as the Federal Water Bank, a new period of rehabilitation, and restructuring could occur for the nation's urban water systems.

Conclusion. Mr. Chairman, on behalf of the U.S. Conference of Mayors, I want to thank you for the opportunity to present our views to the Subcommittee this morning. We have an excellent opportunity to make a real difference to the nation's water supply this year and the Conference pledges its best efforts to work with you towards that end.

I would be pleased to take any questions the Subcommittee might have.

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STATEMENT OF
MR. BOB McCOY
COUNCILMEMBER, OKLAHOMA CITY, OKLAHOMA

ON BEHALF OF
THE NATIONAL LEAGUE OF CITIES

ON
URBAN WATER SUPPLY

BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

JUNE 28, 1983

STATEMENT
OF
BOB McCOY, COUNCILMEMBER, OKLAHOMA CITY, OKLAHOMA
FOR THE
NATIONAL LEAGUE OF CITIES
JUNE 28, 1983

MR. CHAIRMAN, MEMBERS OF THE SUBCOMMITTEE, I AM BOB McCOY, COUNCILMEMBER FROM OKLAHOMA CITY AND A MEMBER OF THE NATIONAL LEAGUE OF CITIES' ENERGY, ENVIRONMENT AND NATURAL RESOURCES STEERING COMMITTEE. I AM HERE TODAY TO TESTIFY ON BEHALF OF THE LEAGUE OF CITIES AND THE 15,000 CITIES OF ALL SIZES THAT NLC REPRESENTS.

WE APPRECIATE THE OPPORTUNITY TO TESTIFY ON THE NEED TO RAISE THE LEVEL OF CONCERN ABOUT THE STATE OF URBAN WATER RESOURCES. WHILE MUCH HAS BEEN TAKEN FOR GRANTED IN THE PAST, THE FUTURE WILL DEMAND CAREFUL ATTENTION TO THE USE, ALLOCATION, AND SUPPLY OF THIS ESSENTIAL RESOURCE.

IN PART, BECAUSE ONE CANNOT SEE THE STATE OF DISREPAIR THAT EXISTS BENEATH OUR STREETS, REINVESTMENT IN OUR WATER SUPPLY SYSTEMS IS MORE OFTEN THAN NOT SOMETHING LESS THAN A FIRST PRIORITY. AND, AS HAS BEEN WELL DOCUMENTED, SUCH REINVESTMENT ALSO COMPETES WITH A BACKLOG OF OTHER IMPORTANT INFRASTRUCTURE NEEDS. IN SOME CASES, THESE OTHER NEEDS MAY BE MORE PRESSING; OR MORE OBVIOUS TO THE PUBLIC; OR A COURT-MANDATED IMPROVEMENT, AS IS THE CASE WITH JAILS.

WHILE I WANT TO STRESS THAT THE MANAGEMENT OF LOCAL WATER RESOURCES IS PRIMARILY A LOCAL RESPONSIBILITY, THE FEDERAL GOVERNMENT IS VERY MUCH INVOLVED IN SETTING THE POLICIES THAT GOVERN WATER MANAGEMENT. FEDERAL WATER POLICIES HAVE A SIGNIFICANT IMPACT ON WHERE AND WHAT INVESTMENTS ARE MADE IN WATER RESOURCES, EVEN THOUGH THE FEDERAL GOVERNMENT HAS CONCERNED ITSELF PRIMARILY WITH NAVIGATION, IRRIGATION, HYDRO-ELECTRIC POWER, FLOOD CONTROL, AND WATER POLLUTION PROBLEMS. IN FACT WATER SUPPLY HAS NEVER BEEN A RECOGNIZED NATIONAL PRIORITY.

FOR MANY PROJECTS, FEDERAL FUNDING AND WATER RATES ARE SUCH THAT TAXPAYERS SUBSIDIZE PROJECTS, THE BENEFITS OF WHICH GO DISPROPORTIONATELY TO A LIMITED NUMBER OF AGRICULTURAL AND INDUSTRIAL USES. THIS BIAS INDUCES COMMUNITIES TO SEEK FEDERAL FUNDS THROUGH APPLICATIONS OFTEN SHAPED TO MEET PERCEIVED FEDERAL POLICIES RATHER THAN LOCAL NEEDS AND PRIORITIES.

MANY FEDERAL INFRASTRUCTURE INVESTMENTS--SUCH AS THOSE RELATED TO URBAN WATER SUPPLY--PERMIT FUNDS ONLY FOR NEW CONSTRUCTION. SUCH RESTRICTIONS, IN EFFECT, PROVIDE INCENTIVES FOR CITIES TO FOREGO MAINTENANCE AND REHABILITATION; WHILE NEW CONSTRUCTION IS MORE EXPENSIVE, IT IS CERTAINTY LESS EXPENSIVE FROM THE LOCAL PERSPECTIVE WHEN THE FEDERAL GOVERNMENT CONTRIBUTES.

SUCH POLICIES MUST BE CHANGED. THE SUPPLY OF POTABLE WATER CANNOT BE PRESUMED TO BE ENDLESS; AND WE BELIEVE THAT DEALING WITH THIS PROBLEM SHOULD BE AN ISSUE OF NATIONAL CONCERN.

WATER SUPPLY PROBLEMS ARE NUMEROUS AND WIDESPREAD. INDIVIDUAL CITIES AND IN SOME CASES ENTIRE REGIONAL WATER BASINS--ACROSS THE NATION--ARE FEELING THE CONSTRAINTS OF LIMITED WATER SUPPLIES. IN SOME PLACES, CONSTRAINTS HAVE BECOME TRUE SHORTAGES. NEW RESERVOIRS AND DIVERSION PROJECTS CAN NO LONGER BE SOLELY RELIED UPON TO SOLVE THE PROBLEM. THE NUMBER OF POSSIBLE SITES, THE ENVIRONMENTAL DISTURBANCES, THE FINANCIAL COSTS, AND THE ABSOLUTE SUPPLY OF WATER SEVERELY LIMIT STRUCTURAL SOLUTIONS.

NOR CAN GREATER AMOUNTS OF GROUNDWATER BE RELIED ON. IN SOME LOCALITIES, GROUNDWATER MINING HAS LED TO EXHAUSTION OF SUPPLIES, DIMINISHED STREAM FLOW, LAND SUBSIDENCE, AND SALT WATER INTRUSION. IN OTHERS, GROUNDWATER CONTAMINATION HAS CAUSED THE SAME RESULT.

MORE THAN 21 PERCENT OF THE NATION'S DAILY DOMESTIC, AGRICULTURAL, AND INDUSTRIAL NEEDS ARE OBTAINED FROM GROUNDWATER. MORE THAN 77 PERCENT OF THE NATION'S WATER SUPPLIES AND MORE THAN ONE-THIRD OF ITS LARGEST CITIES RELY ON GROUNDWATER RESOURCES. FIFTY PERCENT OF THE NATION'S DRINKING WATER SUPPLY COMES FROM GROUNDWATER. INDEED, THIS ALMOST UNQUESTIONED PURITY OF GROUNDWATER HAS MADE IT INCREASINGLY ATTRACTIVE FOR URBAN USERS AS THE COST OF MUNICIPAL TREATMENT PLANTS AND CLEANING SURFACE WATERS TO MEET SAFE DRINKING WATER STANDARDS HAS ESCALATED.

BECAUSE OF THE CRITICAL IMPORTANCE OF GROUNDWATER FOR CITIES, WE BELIEVE A NATIONAL GROUNDWATER STRATEGY IS DESPERATELY NEEDED. WE KNOW THIS COMMITTEE LAST YEAR CONSIDERED STATUTORY LANGUAGE TO REQUIRE THE ADMINISTRATION TO SUBMIT ITS PROPOSAL. WE SUPPORTED THAT IDEA AND RECOMMENDED IT FOR EARLY ACTION THIS YEAR.

NLC'S RECENTLY COMPLETED INFRASTRUCTURE SURVEY INDICATES THAT NEARLY 50 PERCENT OF URBAN WATER SUPPLY SYSTEMS ARE IN GOOD SHAPE. YET, THE COST OF MAINTAINING, BUILDING, REPAIRING, MODERNIZING, AND REPLACING THEM IS ENORMOUS. ESTIMATES ARE ABOUT $40 BILLION OVER THE NEXT THREE DECADES, WITH REPAIR AND REHABILITATION NEEDS REQUIRING A $27 BILLION INVESTMENT JUST OVER THE NEXT DECADE.

OUR SURVEY REPORTED THAT CITIES WITH POPULATIONS OVER 500,000 HAVE DETERIORATING WATER DISTRIBUTION SYSTEMS IN NEED OF MAJOR REHABILITATION TWICE AS OFTEN AS OTHER SIZED CITIES. ON THE OTHER HAND, NORTHEASTERN CITIES, AND SMALLER CITIES WITH POPULATIONS UNDER 10,000 NEED OUTSIDE FINANCIAL ASSISTANCE FOR WATER SUPPLY SYSTEMS ABOUT TWICE AS OFTEN AS OTHER SIZED CITIES.

GIVEN THESE NEEDS, IN THE PAST THE EASY ANSWER WOULD HAVE BEEN TO SEEK SUBSTANTIAL NEW FEDERAL FUNDING. IN VIEW OF THE VERY DIFFICULT BUDGET CONSTRAINTS FACING ALL LEVELS OF GOVERNMENT TODAY, IT WOULD BE UNREALISTIC TO EXPECT PUBLIC FUNDING TO FILL MORE THAN A SMALL FRACTION OF URBAN WATER SUPPLY NEEDS.

NONETHELESS FULL DEVELOPMENT AND MAINTENANCE OF OUR WATER RESOURCES MUST CONTINUE AND THEY CANNOT BE VIEWED AS COMPETING FORCES. RATHER MAINTENANCE IS THE IMPLICIT OFFSPRING OF DEVELOPMENT AND WE SHOJLD FACE OUR RESPONSIBILITIES TO BOTH. BUT BUDGET CONSTRAINTS OFTEN WELCOME NEW MOTIVATION FOR CREATIVE NEW SOLUTIONS. AN EXAMPLE OF WHICH I HAVE PERSONAL KNOWLEDGE IS THE POTEAU/DEEP FORK RIVER BASIN PROJECT IN OKLAHOMA. OKLAHOMA PRODUCES MASSIVE

QUANTITIES OF WHEAT FOR NATIONAL AND INTERNATIONAL SALE, BUT RAILROADS ARE BEING ABANDONED THROUGHOUT THIS NATION AND OKLAHOMA IS NO EXCEPTION. IF WE ARE TO HAVE OUR DAILY BREAD, LOW COST BULK TRANSPORTATION SUCH AS OFFERED BY THE FOTEAU DEEP FORK BASIN PROJECT MUST COME TO BE. INDEPENDENT OF THIS PROJECT, THE OKLAHOMA WATER RESOURCES BOARD HAS BEEN PLANNING FOR TRANSFERRING EXCESS OF LOAD WATER FROM SOUTHEASTERN OKLAHOMA TO THE WEST WHERE THE OGALLALA GROUNDWATER AQUIFER IS SUFFERING FROM THE LACK OF A NATIONAL GROUNDWATER POLICY. NEITHER THE WATER TRANSFER PLAN NOR THE POTEAU DEEP FORK BASIN PROJECT ARE INDEPENDENTLY FEASIBLE. THE BUDGET CONSTRAINTS HAVE FORCED A RE-THINKING AND TODAY FEASIBILITY GENERATED FROM COMBINING THE TWO ENDEAVORS SEEMS ASSURED.

BUT FULL DEVELOPMENT AND MAINTENANCE OF OUR NATIONS' WATER SYSTEM WILL REQUIRE GREATER RELIANCE ON PRIVATE SECTOR FINANCING THAN EVER BEFORE. PUBLIC FINANCING OF MASSIVE PROJECTS SUCH AS THE POTEAU/DEEP FORK BASIN MIGHT BE POSSIBLE, BUT PUBLIC FINANCING OF THE MULTITUDENOUS MAINTENANCE PROJECTS CAN BE ACHEIVED ONLY BY PRIVATE SOURCES.

IN THIS CONNECTION, MR. CHAIRMAN, NLC TESTIFIED BEFORE THIS COMMITTEE EARLIER THIS YEAR THAT CONGRESS SHOULD GIVE CAREFUL CONSIDERATION TO LEGISLATION INTRODUCED BY SENATOR DOMENICI, S.533, WHICH WOULD PROVIDE INTEREST SUBSIDIES FOR TAXABLE BONDS ISSUED TO FINANCE INFRASTRUCTURE PROJECTS, SUCH AS URBAN WATER SUPPLY SYSTEMS. SUCH AN APPROACH WOULD ENABLE STATES AND LOCAL GOVERNMENTS TO RELY ON PRIVATE SECTOR CAPITAL

INVESTMENTS AT LITTLE TO NO COST TO THE FEDERAL TREASURY. WE CONTINUE TO BELIEVE THAT SENATOR DOMENICI'S IDEA MERITS YOUR CAREFUL CONSIDERATION.

THE CONCEPT OF A TAXABLE BOND OPTION CARRIES ANOTHER IMPORTANT BENEFIT FROM OUR POINT OF VIEW. THE PROGRAM WOULD BE NEUTRAL. IT WOULD NOT DIRECT FEDERAL SUBSIDIES TO ONE TYPE OF WATER PROJECT OVER ANOTHER. RATHER, IT WOULD BE LEFT TO STATES AND LOCAL GOVERNMENTS TO DETERMINE THEIR OWN PRIORITIES.

INDEED, IT IS IN THE AREA OF ENABLING STATE AND LOCAL GOVERNMENTS TO FINANCE URBAN WATER SUPPLY NEEDS THAT WE BELIEVE THE CONGRESS SHOULD FOCUS. APPROXIMATELY 83 PERCENT OF PAST URBAN WATER SUPPLY PROJECTS HAVE BEEN FINANCED AT THE STATE AND LOCAL LEVEL--ALMOST ENTIRELY THROUGH THE ISSUANCE OF TAX EXEMPT MUNICIPAL BONDS.

YET, RECENT CONGRESSIONAL ACTIONS IN THE TAX FIELD AND THE ACCELERATING GROWTH OF PRIVATE PURPOSE, NON-TRADITIONAL, TAX-EXEMPT INDUSTRIAL DEVELOPMENT BONDS HAVE ADVERSELY AFFECTED THE ABILITY OF CITIES TO MAKE NEEDED WATER INVESTMENTS. AS A RESULT, CITIES ARE CURRENTLY FACING SOME OF THE HIGHEST REAL BORROWING COSTS IN HISTORY. THE CREATION OF NEW TAX SHELTERS; TAX CHANGES REDUCING THE ATTRACTIVENESS OF MUNICIPAL BONDS TO INSURANCE COMPANIES, BANKS, AND INDIVIDUALS; THE GROWING COMPETITION OF INDUSTRIAL DEVELOPMENT BONDS; AND HIGH INTEREST RATES HAVE ALL WREAKED HAVOC ON MUNICIPAL FISCAL STABILITY.

It should come as no surprise that one of NLC's highest priorities is to lower the cost and improve the marketability of municipal bonds. Although beyond the jurisdiction of this committee, such improvements are critical in enabling us to resolve our own urban supply problems.

The ingenuity of cities in financing the rebuilding of our cities has been remarkable. Cities have used general obligation bonds, "MUNI" bonds, revenue bonds, special assessment bonds, user fees, impact fees, system development charges, general facilities charges, latecomer fees, straight-operating leases, lease-purchase agreements, leveraged lease financing, certificates of participation, and interim privatization. These methods have been resorted to in the absence of adequate federal, state, or local resources.

For example, the Town Council of Neola, Iowa decided in 1974 to install municipal water meters, but did not have sufficient capital. The town arranged for a five year lease-purchase arrangement for meters with a projected life of 20 years. Within three years, the added income from the metered water helped the city to complete its purchase. The meters have continued to give good service, and water rates have remained acceptable to the residents since.

Perhaps one of the most promising methods, that of privatizing or leveraged leasing, is currently under attack by the administration and in the House. H.R. 3110, introduced by Rep. J. J. Pickle,would impose increased costs on state and local

GOVERNMENTS BY PROHIBITING CERTAIN TAX INCENTIVES FOR PRIVATE LESSORS WHO LEASE ASSETS TO CITIES. THE IMPACT OF THE LEGISLATION WILL CLEARLY BE TO INCREASE THE COST OF PUBLIC INFRASTRUCTURE AND PROVIDING SERVICES.

AT A TIME WHEN CONGRESS AND THIS COMMITTEE ARE GRAPPLING WITH EFFORTS TO INCREASE INVESTMENT INTO OUR INFRASTRUCTURE, WE URGE YOU TO OPPOSE H.R. 3110. WHILE WE ARE NOT REQUESTING CREATION OF A NEW PROGRAM OF FEDERAL ASSISTANCE FOR URBAN WATER SYSTEMS, WE VERY MUCH HOPE THIS COMMITTEE WILL SUPPORT EFFORTS IMPROVING OUR WATER SUPPLY AS WELL AS IMPROVING THE MANY OTHER ESSENTIAL MUNICIPAL SERVICES.

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Anchorage Water and
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Atlanta Water Bureau

The Water Works Board of
the City of Birmingham

Boston Water and
Sewer Commission

Metropolitan District
Commission, Boston

Chicago Department of
Water

Council Bluffs Water Works

Detroit Water and
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Erie County Water
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Honolulu Board of
Water Supply

Houston Department of
Public Works

Kansas City Water
and Pollution Control
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Portland Bureau of
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Raleigh Public Utilities
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St. Louis Water Division

San Bernardino Municipal
Water Department

South Central Connecticut
Regional Water Authority

Tampa Water Department

Toledo Department of
Public Utilities

Tucson Water

Tulsa Water and
Sewer Department

Washington Suburban
Sanitary Commission

STATEMENT

PRESENTED TO THE
SENATE SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON ENVIRONMENT & PUBLIC WORKS

BY

DONALD R. BOYD
APPEARING AS PRESIDENT
OF THE
ASSOCIATION OF METROPOLITAN WATER AGENCIES

AND

DIRECTOR OF THE
KANSAS CITY WATER
& POLLUTION CONTROL DEPARTMENT

JUNE 28, 1983

Good morning. Mr. Chairman, members of the Subcommittee, I am Donald R. Boyd, Director of the Kansas City Water and Pollution Control Department and President of the Association of Metropolitan Water Agencies (AMWA). AMWA represents the interests of 36 of this country's largest publicly owned and operated water supply agencies. AMWA's members collectively provide 33 million of this country's population with a safe source of drinking water.

AMWA welcomes the opportunity to provide this Subcommittee with its views regarding future water supply agencies' capital needs. AMWA commends this Subcommittee for its interest in this important area of the Nation's overall infrastructure funding requirements.

Mr. Chairman, several studies have revealed the state of disrepair for water supply systems and the future capital needs of such systems required to assure safe and adequate supplies of drinking water.

The Congressional Budget Office projects that more than $100 billion will be required to address water supply system rehabilitation and replacement needs by the close of this century. The magnitude of this financing need has been reaffirmed by several other studies into the Nation's infrastructure capital requirements.

An AMWA analysis of capital needs over the next ten years found our members' needs to be approximately $78 billion. The National Urban Water Systems' Study concluded that such needs ranged between $75-110 billion over the same time period. Clearly, there is a difference in perceived capital needs, but the same conclusion is arrived at; urban water supply agencies' capital needs over the next several decades are substantial.

The AMWA survey found that the critical areas necessitating capital improvements were (1) treatment plant related, (2) transmission/distribution related, and (3) increasing transmission/distribution of water supply agencies.

THE SURVEY, WHICH I WOULD LIKE TO SUBMIT FOR THE RECORD, ILLUSTRATES THE BASIC COMPONENTS OF PROVIDING ADEQUATE, AND EQUALLY IMPORTANT, SAFE DRINKING WATER SUPPLIES.

THESE CAPITAL NEEDS ARE ATTRIBUTABLE TO THE NATURE OF OUR URBAN AREAS' WATER SUPPLY AGENCIES' AGE. THESE SYSTEMS ARE SEVERAL DECADES OLD. IN FACT, THE AMWA SURVEY REVEALED 59% OF THE RESPONDENTS REPORTED THEIR SYSTEMS TO BE MORE THAN 10-50 YEARS OLD. MORE IMPORTANTLY, 23% OF THE RESPONDENTS REPORTED THAT THEIR SYSTEMS WERE AT LEAST 50 YEARS OLD OR OLDER.

BECAUSE WATER SUPPLY AGENCIES ARE SELF-SUSTAINING ENTITIES, DERIVING THEIR REVENUES FROM UTILITY RATE SYSTEMS; REPAIRS, REHABILITATION AND EXPANSION NEEDS HAVE BEEN LIMITED BY THE LEVEL OF SUSTAINING REVENUES. ACCORDING TO OUR SURVEY, ANNUAL REVENUE SOURCES WERE DISTRIBUTED AMONG THE FOLLOWING CATEGORIES:

O	INCOME FROM SERVICES:	78%
O	GENERAL REVENUES:	11%
O	BOND ISSUE:	9%
O	OTHER:	2%

REFLECTING INCREASED CAPITAL REQUIREMENTS NEEDS, AMWA MEMBERS RESPONDED THAT FUTURE ANNUAL BOND ISSUE REVENUES WOULD GROW TO 26%, AS A CRITICAL SOURCE OF ANNUAL REVENUES.

IN CONJUNCTION WITH THIS GROWING CAPITAL INVESTMENT NEED, AMWA MEMBERS IDENTIFIED A CRITICAL PROBLEM AREA HAMPERING THEIR ABILITY TO MEET THE CAPITAL NEEDS. SIMPLY STATED, ECONOMIC IMPEDIMENTS, AN ABILITY TO SECURE ADEQUATE CAPITAL FOR WATER SUPPLY SYSTEM INVESTMENTS THREATEN TO STYMIE EFFORTS TO ASSURE ADEQUATE DRINKING WATER SUPPLIES.

MR. CHAIRMAN, AMWA URGES THIS SUBCOMMITTEE TO TAKE NECESSARY ACTION TO ASSIST WATER SUPPLY AGENCY OPERATORS IN MEETING THEIR CAPITAL NEEDS. AS I STATED EARLIER, AMWA MEMBERS HAVE PROVIDED WATER SUPPLIES WITHOUT ANY FINANCIAL ASSISTANCE FROM THE FEDERAL GOVERNMENT. IN FACT, BECAUSE OF FEDERAL DRINKING WATER REGULATIONS, WE HAVE INCURRED INCREASED OPERATING COSTS.

AMWA members pride themselves in their financial self-sufficiency. For this reason, we do not come before Congress seeking a new Federal grant program. Instead, we urge Congress to provide metropolitan water supply agencies with the financial means to meet critical infrastructure needs through the establishment of a Federal Water Bank. This bank would provide loans to agency operators, that would be repaid in full. This bank would maintain the self-sustaining nature of water supply agencies, while not exposing the Federal government to increased cost sharing.

Under this proposal, AMWA urges that Congress establish a federally-chartered special purpose financing bank to assist public water agencies in meeting their growing capital requirements for both new construction and rehabilitation of existing plant. Like other federally-chartered special purpose banks, the Federal Water Bank would be a quasi-independent government corporation, governed by a Board of Directors independent of any federal agency.

Eligible borrowers would be defined as publicly-owned water suppliers, including both wholesalers and retail utilities, and to include municipalities, municipal agencies, and special purpose commissions or districts, a primary purpose of which is water supply.

AMWA recommends that projects eligible for Federal Bank financing include facilities for water supply and distribution, including new construction, improvements, expansions, and rehabilitation, all broadly defined. Possible additions to the list would include projects designed to develop new supply, and the acquisition of other existing water suppliers by public water agencies.

Any bank should include some mechanism to assure that a "fair share" of the available financing goes to large urban agencies which serve the bulk of the Nation's population, and that the Bank's resources are not diverted to hundreds of small "pork-barrel" projects serving very limited numbers of people. One approach to this problem would be a general statutory requirement

THAT, IN THE AGGREGATE, LOAN COMMITMENTS BE MADE IN PROPORTION TO THE PERCENTAGE OF THE POPULATION SERVED BY BANK BORROWERS. ANOTHER APPROACH WOULD BE TO REQUIRE THAT SOME MINIMUM PERCENTAGE OF THE BANK'S PORTFOLIO BE DIRECTED TO "URBAN AREAS", SMSA'S, OR AGENCIES SERVING MORE THAN SOME FIXED NUMBER OF CUSTOMERS.

ANY FEDERAL WATER BANK PROBABLY WOULD NOT HAVE SUFFICIENT FUNDS TO FINANCE A 100% OF NEEDS, AND THUS IT IS ONLY REALISTIC TO ASSUME THAT A LOCAL CONTRIBUTION WILL BE NECESSARY. IT IS RECOMMENDED THAT THE BANK REQUIRE FINANCIAL COMMITMENTS FROM LOCAL AND/OR STATE SOURCES EQUALING AT LEAST 20% OF THE TOTAL PROJECT REQUIREMENTS SUPPORTED BY BANK FINANCING.

AMWA RECOMMENDS THAT THE BANK BE AUTHORIZED TO MAKE DIRECT LOANS, GUARANTEE LOANS AND OTHER DEBT INSTRUMENTS MADE BY OTHERS, AND FINANCE LEASES AND SALE/LEASEBACKS. CONSIDERATION SHOULD BE GIVEN TO WHETHER THE BANK SHOULD ALSO BECOME A SECONDARY MARKET FOR THE PURCHASE AND POSSIBLE RESALE OR REPACKAGING OF PUBLIC AGENCY WATER DEBT, AND/OR AN INSURER OF PUBLIC AGENCY DEBT.

LOAN CONDITIONS COULD PROVIDE A MAXIMUM TERM FOR THE BANK'S COMMITMENTS OF THIRTY (30) YEARS, WITH OPTIONS TO PREPAY OR REDEEM IN LESS THAN THE ORIGINAL TERM. PRESUMABLY, THE BANK WOULD BE AUTHORIZED TO MAKE SHORTER TERM COMMITMENTS AS WELL IN SITUATIONS WHERE THAT SUITED THE PARTICULAR REQUIREMENTS OF THE BORROWER.

IMPLICIT IN THE CREATION OF A FEDERAL WATER BANK IS THE ASSUMPTION THAT LONG TERM FINANCING WILL BE AVAILABLE AT MORE FAVORABLE RATES THAN HAVE RECENTLY GOVERNED THE DEBT MARKETS. THE QUESTION IS HOW SUBSTANTIAL A SUBSIDY IS APPROPRIATE IN LIGHT OF THE PARTICULAR NEEDS OF PUBLIC WATER AGENCIES. AMWA RECOMMENDS THAT INTEREST RATES FOR LENDING PURPOSES BE SET AT SOME PERCENTAGE OF THE U.S. TREASURY'S COST OF BORROWING FOR DEBT INSTRUMENTS OF COMPARABLE MATURITY, AND THAT RATE FLUCTUATIONS BE SMOOTHED OUT SOMEWHAT BY ADJUSTING BANK RATES INFREQUENTLY, PERHAPS TWICE A YEAR, ON THE BASIS NOT OF THE MOST RECENT TREASURY

FIGURES, BUT A ROLLING AVERAGE OF THE LAST FOUR OR SIX QUARTERS. ONCE THIS COMPARATIVE BASE IS ESTABLISHED, ONE MUST THEN DETERMINE WHETHER THE BANK RATE SHOULD BE SET AT 75% OF THE FORMULA RATE, 60%, 50%, ETC. WHATEVER THE EXACT PERCENTAGE, IT IS IMPORTANT THAT THE SUBSIDY BE SIGNIFICANT IN RECOGNITION OF THE VERY SUBSTANTIAL BORROWING REQUIREMENTS OF PUBLIC WATER AGENCIES.

IN THE EXTENT THAT THE BANK IS AUTHORIZED TO GUARANTEE LOANS BY OTHERS, OR TO INSURE MUNICIPAL DEBT, THE STATUTE MUST ALSO PROVIDE FOR SPECIFIC GUARANTEE FEES AND INSURANCE PREMIUMS, OR ALTERNATIVELY, AUTHORIZE THE BOARD OF DIRECTORS OF THE BANK IN ITS DISCRETION TO DETERMINE SUCH FEES.

THE BANK SHOULD BE CAPITALIZED BY A COMBINATION OF INITIAL EQUITY AND LONG TERM BANK BORROWING. AMWA RECOMMENDS THAT ANY PROPOSAL AUTHORIZE THE U.S. TREASURY TO PURCHASE $2.5 BILLION OF EQUITY CAPITAL IN THE BANK, TO BE SUBSCRIBED IN INCREMENTS OF $500 MILLION A YEAR OVER FIVE YEARS, EACH TO BE APPROPRIATED FROM GENERAL FUND REVENUES. IN ADDITION, THE BANK WOULD BE AUTHORIZED TO BORROW UP TO 20 TIMES ITS PAID-IN CAPITAL. IF FULLY FUNDED, THIS WOULD AMOUNT TO A MAXIMUM CAPITAL OF $52.5 BILLION, AND A DEBT EQUITY RATIO OF 20:1. IT IS IMPORTANT TO NOTE THAT A HIGH DEBT EQUITY RATIO LIMITS THE BANK'S ABILITY TO SUBSIDIZE LOAN RATES, IF THE ONLY SOURCE OF THE SUBSIDY IS THE INITIAL DEBT EQUITY RATIO, IT IS RECOMMENDED THAT CONTINUING ANNUAL GENERAL FUND APPROPRIATIONS BE MADE TO THE BANK AFTER THE INITIAL CAPITALIZATION IS PAID IN.

MR. CHAIRMAN, THIS CONCLUDES MY TESTIMONY. I WOULD BE PLEASED TO RESPOND TO ANY QUESTIONS THE COMMITTEE MAY HAVE.

TESTIMONY
OF THE
AMERICAN WATER WORKS ASSOCIATION
BEFORE THE
SENATE SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
ON
URBAN WATER SUPPLY FUNDING
JUNE 28, 1983

Mr. Chairman, the American Water Works Association welcomes the opportunity to appear before you today to express our views on the safe drinking water program. I am William Marrazzo, Commissioner of the Philadelphia (PA) Water Department and a member of AWWA's Water Utility Council.

AWWA is a 100-year old non-profit scientific and educational society and the largest organization of professional water supply people in the world. Its over 32,000 members include managers, engineers, operators and other employees of community water systems as well as scientists, academicians, state regulators and others. Our membership includes more than 3,000 water utilities that provide approximately 70% of this nation's potable water and hold, as a common concern, the provision of the best possible water to consumers at a reasonable cost. Since it was founded in 1881, the Association has been dedicated to promoting public health, safety and welfare through improvement of the quantity and quality of water delivered to the public.

The American Water Works Association and its Water Utility Council appreciate the opportunity to present this statement on financing urban water supply. Some of the nation's major water supply systems are said to be in a serious state of disrepair resulting in an impending national crisis. What is needed is a realistic look at the current conditions, both physical and financial, that exist in the drinking water industry.

Water service throughout the nation is provided under a wide range of hydrologic and urban conditions and it is extremely difficult to generalize. Some water systems, such as those in the Southwest, are new and in an excellent state of repair. Others, principally in the Northeast, are older. Due to materials and age, these facilities require continual maintenance and replacement. Nevertheless, these systems generally have the following common aspects:

- Almost all major systems are financed by water utility charges and those charges, with few exceptions, are small by comparison to gas and electric utilities.

- All of the systems deliver water that generally meets state and federal health requirements.

- The rate of facility replacement varies widely depending upon each community's priorities. It is generally true that water utilities that are independently managed and not required to share revenues with other municipal functions have a higher state of repair.

To find out more about the real conditions of the drinking water industry, the American Water Works Association undertook a recent survey of 33 of the major utilities (see attached list). While the analysis of this data is incomplete, the following conclusions can be drawn:

- Of the 33 utilities, 14 believe that their current state of repair is adequate and that deferred maintenance does not exist.
- Of those with deferred maintenance, the utilities with one exception could eliminate the backlog through construction programs, over a ten-year period, financed by revenue bonds. The bonds would be paid from water rates, with the financing programs resulting in water rate increases ranging from 6% to 36%.
- Almost 60% of the utilities with deferred maintenance have residential water bills that are below the average of the utilities responding to the survey.
- One large utility in the Northeast, with the highest deferred maintenance of those responding, has the lowest monthly residential water bill ($3.40). This is approximately one-third of the average monthly residential water bill of all respondents. By increasing the residential charge to approximately the average of those surveyed, this deferred maintenance could be funded from water resources.
- The current average monthly residential water bill in those communities with deferred maintenance ranges from $3.40 to $13.75.

The survey contains many interesting statistics and will be published by the Association after it has been analyzed and reviewed by appropriate AWWA committees. The preliminary results, however, clearly support the Association's contention that the appropriate local and federal roles with regard to water system rehabilitation and deferred maintenance (water system improvement and expansion is a separate issue) are as follows:

- Water service charges by public and investor-owned utilities can, in all but a very few instances, be increased within the users' ability to pay to eliminate deferred maintenance.
- It is in the national interest to assure that unique local conditions resulting in high borrowing rates do not result in excessive costs to bring systems into an adequate state of repair. This can be achieved through some form of federal long-term loans.

- Loans should be provided through the states, either by federal seed money to provide revolving funds for direct loans or, preferably, by establishment of an insurance program to guarantee repayment of local debt.
- Special consideration should be given to the small utility hardship case where rehabilitation or improvement is necessary to meet Safe Drinking Water Act standards. Some states have established grant programs but the Association believes that there is a national need among small utilities with special water quality problems and very limited financial resources. In some instances, regionalization should be encouraged. Rural communities require special attention and, in this regard, the existing loan program administered by the Farmer's Home Administration of the Department of Agriculture should receive greater funding and perhaps be broadened to include larger populations.

The experience of the '70s with the Clean Water Grant Program, the revenue-supported nature of all urban water systems, and the current relatively low rates that exist for water service all indicate that a new national grant program is neither needed nor desirable. The Association believes that most utilities presently have adequate ability to upgrade their systems, including the construction of water supply improvements and expansions. However, if the Congress believes that assistance is appropriate, state-administered loan programs, or preferably, an insurance program to guarantee low interest rates to both investory-owned and public utilities, would be in order.

Investor-owned utilities have a special problem. Regulated by public utilities commissions and borrowing at sometimes high interest rates that are not subsidized by federal tax exemption, they must be given some consideration in a national program. The Congress has allowed the states and local governments to sell tax exempt bonds for construction of pollution control facilities by private industry. If there is a national water utility infrastructure financing need, the loan or debt repayment insurance program should be extended to investor-owned utilities meeting special need criteria.

In summary, the Association believes that a program of loans made by the states to local utilities, or preferably, borrowing engaged in by local utilities with repayment guaranteed by states and with seed money provided by the federal government, would be appropriate. These would be effective ways of aiding local utilities to keep down the costs of water service—while at the same time restoring these utilities with deferred maintenance to an adequate state of repair.

We appreciate the opportunity to appear here today and I will be pleased to answer any questions.

LOUIS L. MEIER, *Executive Director*

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Testimony of

Dr. Daniel P. Sheer, Ph.D., P.E.

Director, Section for Co-operative Operations

Interstate Commission on the Potomac River Commission

and

Chairman, Water Resources Systems Committee

American Society of Civil Engineers

before the

Subcommittee on Water Resources

of the

Senate Committee on Environment and Public Works

June 28, 1983

Testimony of
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and
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American Society of Civil Engineers
before the
Subcommittee on Water Resources
of the
Senate Committee on Environment and Public Works

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Gentlemen, I wish to thank you for inviting me here to testify today. It is an honor and a privilege to be here. My current resume is available; I am active professionally, serving as Chairman of the Water Resources Systems Committee and the Urban Reservoir Operations Task Force for the American Society of Civil Engineers, and as a member of the National Research Council's Water Science and Technology Board. Though I am appearing today as an expert witness provided by ASCE, the proposals I describe will be my own, not necessarily indicative of ASCE policy.

Today I'll propose to you a program aimed at improving the management and operation of existing "infrastructure". No other single program can do more to reduce the "infrastructure" problem. It is unlikely that any other program would cost less.

Infrastructure is a nebulous word, and before I go further I'd like to give some definition to the "infrastructure problem". The common perception, as I understand it, is as follows:

> Infrastructure; our roads, pipes, landfills, treatment works, electric utilities, etc., is very important to maintaining our standard of living. What we have needs to be fixed. We must add more to accomodate our increasing population. This costs a tremendous amount of money. Therefore, infrastructure represents a tremendous liability.

Sound familiar? The last sentence, "infrastructure ..(is).. a ... liability", is absolutely untrue!! Infrastructure is no liability, it is literally a national treasure. What differentiates the U.S. from underdeveloped countries? The education of our people, and our infrastructure. Infrastructure must be viewed as an asset.

If it is an asset, what is it worth? That is a very difficult question to answer, except in part, but even part can provide perspective. I'll compare the value of what we have on the ground to our expenditures on new construction. Water projects constructed by the Bureau of Reclamation and Corps of Engineers in this century have a replacement value of about $170 billion. That allows for depreciaton. The combined new construction budgets of those two agencies over the decade of the seventies averaged about $2.5 billion annually. The two agencies have, in the ground, an investment equal to over 60 times their annual new construction budgets.

Taking present values provides a more definitive comparison. A budget of $2.5 billion a year for the next twenty years is worth about $25 billion in lump sum right now. Compare that to the $170 billion replacement value of existing projects. The Corps and the Bureau have assets on the ground worth as much to us as seven times the value of what they will build over the next twenty years! Seven times! Corresponding ratios for state and local existing projects versus new construction expenditures are probably substantially larger.

So, existing projects are worth seven times more, so what? Imagine that you could organize a team of people that would magically find ways to change the operations of existing projects and increase their benefits by one seventh (15%). That team of analysts could produce as much in benefits (different benefits, of course, but just as much) as the entire construction program. Would the members of this Subcommittee be interested in what existing projects the team analyzed? As concerned as they are about which new projects are funded?

I'm an analyst; I try as hard as I can not to tell people what they should do. Instead, I try to make clear what they can do. The Congress and the President can help create a program capable of increasing the value of our existing infrastructure by 15% and more. The primary ingredient is personnel trained in analyzing the operations of individual projects and systems of projects. There are enough available to get started, though more are needed. What you must provide are the opportunities and incentives to get the job done. It shouldn't be expensive.

Those are pretty strong statements. I'll demonstrate they are true by:

1) Citing instances where dramatic increases in value have been or can be achieved.

2) Describing the people who can contribute to the effort and where they are located.

3) Analyzing the problems and the reasons that current management and operations are not as efficient as they can be, and

4) Proposing alternatives means for implementation.

Examples

One notable success story is here on the Potomac. Federal, state and local agencies, working with the Interstate Commission on the Potomac River Basin, solved a problem of 30 year's standing. The problem: provide an adequate raw water supply for the Washington Metropolitan Area, without infringing on the rights and property of those upstream. The key to the solution was determining, in advance of drought, how the operations of all available supplies could be coordinated to maximize yield.

This involved optimization and simulation of system operations. Improved operations provided as much additional yield as two proposed (and now de-authorized) reservoirs, and saved about one half billion dollars. The analysis, in toto, cost about $2 million. the payback? One hundred to one or better, with an increase in total system yield of between 30% and 50%.

Our experience in the Potomac dramatically illustrates in the water field a concept long recognized in the electric utility industry:

> Operations of existing facilities are vital to decisions concerning new facilities.

In 1979, ASCE held a symposium on Reservoir Systems Operations in Boulder, Colorado. The proceedings of that conference, published last year, demonstrate:

A 10% increase in power revenues in the California Central Valley.

An expected 20% increase in power revenue from TVA reservoirs.

Substantial increases in flood protection on both the Arkansas and Colorado rivers.

In Angola, New York, analysis of the operations of a typical secondary activated sludge plant resulted in a 9% decrease in operating cost, exclusive of savings in sludge. Sludge production was reduced 25%.

The Fairfax County Water Authority, across the Potomac in Virginia, nearly ran its supply bone dry. Analysis at that time helped determine that drastic measures such as closing schools and businesses were not necessary. More significantly, the same techniques were used from the beginning of what turned out to be a more prolonged and severe drought in 1980. Appropriate publicity generated small reductions in use early in the drought, reservoir levels remained adequate, and a repeat of the 1977 crisis was avoided. The point here is that even when analysis cannot improve yield, it can reduce the consequences of having less than totally adequate facilities. Norfolk, Virginia used a similar technique to determine the earliest time water use restrictions could be lifted during the 1980 drought.

Potential

Enormous. Some people collect stamps, I collect water problems. Here are a very few from the grab bag.

In Charles County, Maryland, most municipal supply is groundwater. The aquifer is overdrafted, groundwater levels are falling. There are no good sources of additional firm yield nearby, the land is flat, and enormous reservoirs would be required to store small amounts of water. The Maryland Water Resources Administration put a young analyst to work on the problem. She used a groundwater model to analyze alternative ways of operating. By obtaining an interruptable supply of surface water from a nearby utility, groundwater levels can be made to rise during wet years and then pumped down when the interruptable supply is unavailable. The cost? Four miles of 18" pipe and some valves. Hardly enough to matter. This kind of situation occurs through New England and other parts of the United States.

In Texas, managers of irrigation districts typically must schedule releases from upstream reservoirs several days in advance. Forecasts of both streamflow and demand are based on judgement, much of the water released is never used, and occasional shortages develop. The problem is analogous to the problem we faced here in the Potomac with water supply demands. We found ways to reduce waste from over 50% of the water released to less than 10%. I strongly believe similar improvements can be realized in Texas.

The parties to the Delaware River Compact are nearing completion of operating agreements. They will form a legal basis for joint operations. The current agreements should be signed. Once they are, further analysis of operations should be undertaken to reduce the frequency of drought emergencies and increase the yield of the total system. My own analysis indicates an additional 100 to 200 mgd could be squeezed from the joint operations of reservoirs in the lower Delaware and the N.Y.C. supplies.

Moving west, I believe that joint operations of the California Water Plan facilities, the Bureau of Reclamation's California projects, and the reservoirs on the Colorado could produce up to an additional half million acre feet a year of dependable supply. That water could be allocated to users almost anywhere in the Colorado Basin, Southern California, the Central Valley, or the San Joaquin Delta.

The last two examples are cases where it is physically possible to manage the existing system to produce the desirable additional yield. Legal and institutional constraints make it impossible, however. The physical laws, God's laws, do not change. Man's laws do. Analysts can only show you how to get the water. It is up to you to change the law to equitably allocate the new resource, and use it to advantage.

The National Weather Service in in the process of implementing its new computerized River Forecast System (NWSRFS). We have been using it on the Potomac (as a test case) for nearly three years. It is a quantum jump in forecasting skill. In particular, it can estimate with fair precision the amount of baseflow (drainage from current groundwater) which will occur over the next several months, and the amount of rainfall dry ground will absorb before producing the surface runoff that causes floods. Changing operations to make use of the information NWSRFS produces should increase the benefits from nearly every reservoir in the country.

At ICPRB we are simulating just such an operating scheme this summer. In the simulations, we keep Bloomington Lake levels high when the ground is dry and will absorb substantial water before flooding occurs. That is also when water supply is most likely to be needed. Conversely, we keep the Lake low when the ground is wet, flooding is likely and water supply assured (this year is a good example). I believe we can increase effective flood control storage by 50% or more, while increasing effective water supply storage by as much as 10%.

One final example. If any river basin in the U.S. is overdeveloped, it is the Colorado. The drought of record is 35 years long. Additional reservoirs will lose more water through evaporation than they contribute to the safe yield. With all that development, the last place I would have looked for significant opportunities to increase the value of existing projects was the Colorado. Yet a Colorado State University study, recently completed, did just that.

The aim of the study was to see if joint operations of the Columbia and Colorado systems could provide additional firm hydropower to offset the need for new thermal power plants in the Columbia basin. The target was 500 MW of firm power. From the study, I conclude that, even without changing operations, at least an additional 1000 MW of firm power is available. With minor changes, perhaps as much as 2000 MW is available.

New generating capacity costs between $1 and $2 thousand per KW. At that price, the value of the potential firm power found by the CSU study is between $1 and $4 billion, but overall hydropower production must be reduced to increase the firm power available.

The results of the CSU study cannot be implemented off the shelf. That study simply shows what can be achieved. Actual implementation will require further and much more detailed analysis, costing perhaps $1 to $2 million. That is likely to be quite a bargain.

People

The largest group of capable analysts are in the academic community. The field is new, and the subject of much research. The second largest group is already in the Federal Service, in the COE, Bureau of Reclamation, TVA, National Weather Service, and Geological Survey, primarily. These people need to be brought together and given the opportunity to:

1) Examine potential operating policies for particular systems as free of political and institutional constraints as is possible, and

2) Take a direct role in the actual implementation of their work, where such implementaiton is deemed desirable by political decision makers.

The total number of people whose efforts could reasonably be brought to bear on analysis and implementation is small, perhaps one to two hundred. As the field matures, I guesstimate there will develop a demand for perhaps 1000. They must be trained in theory and practice. A modest program of grants for graduate students in the field is highly desirable.

Problems

If the opportunities for analysis are so ubiquitous and the potential so dazzling, why isn't analysis universally applied? Are current managers doing a poor job? Quite the contrary, current managers and operators are generally doing the best they can under the constraints and incentives provided. There are many reasons why analysis of management and operations is not widespread.

The field is new. Academic research really began in the early and mid 60's. The first large scale applications began in the seventies. Twenty years from concept to implementation is a rule of thumb. Amazingly, considering the other difficulties described below, we are about on schedule.

Good analysis requires good computers. Much of the work on the Potomac was done on microcomputers. As small as they are they are in many ways more powerful, and certainly more convenient, than the mainframe I used for my thesis less than 10 years ago. They are also much less expensive. Some of the analysis we did required machines which simply did not exist ten years ago. The techniques used to develop improved operations are not standard engineering practice. In fact, they are hardly standard at all. Systems analysts use a grab bag of analytical tools to solve problems. Every practitioner I know uses them differently.

Managers of water facilities, with sometimes awesome responsibilities, have no standards for evaluating new operating policies. Overcoming this problem was the most difficult task in implementng the solution to the Washington Area water supply problem. It took six revisions working directly with the operators, before a credible daily simulation was developed. It took 400 runs of that model before the managers were certain they understood the implications of their joint operating agreements. Finally, drought exercises, similar to drought games, were held to be sure that everyone could really work together. Changing the operating rules takes a great deal of patience, understanding and mutual respect among all parties.

Institutions with the responsibility to analyze combined operations of independent agencies rarely exist. ICPRB is an unusual agency. I personally encouraged the staff of the Baltimore District, COE to analyze the joint operation of their Bloomington Dam and the reservoirs owned and operated by the local utilities. They insisted, correctly, that that was beyond their authority. There is no one agency with the authority and the resources to analyze the joint operations of facilities on the Missouri, or to look at the implications of joint operations of adjacent water utilities in New England. Yet, those are precisely the places where I'd expect to find the greatest potential for improving operations.

The incentives for improving operations in water resources are relatively small. Federal and state grants are for construction, not operations, much less analysis. Even the training grants have dried up (I was the recipient of an FWPCA/EPA grant). Utilities are guaranteed a return on capital investment; they break even on operations. The very concept of joint operations between independent agencies runs counter to bureaucratic tradition.

With exceptions in the narrow fields of flood routing, water quality modeling, and possible distribution system analysis, there are extremely few practitioners. Most of the knowledgeable people are in academia. Some would, given monetary incentive, become practitioners. The effort on the Potomac was staffed in no small part by students. Five, perhaps six, Ph.D dissertations have or will result. For the immediate future, lack of trained people will limit our ability to make better use of our existing infrastructure.

These difficulties will be overcome in time. I believe it is in the National interest to institute a modest program to encourage improved operation of our water infrastructure. The following actions are aimed at overcoming some of the difficulties cited above.

Proposals

1) Form a technical task force, responsive to both the Legislative and Executive branches, which reviews the operations of every Federal water project once every seven to ten years. Make the members of the task force at least partially responsible for implementing those recommendations which are accepted.

The reviews must address operations of the projects individually and in larger systems, including the operation of non-federal projects. They should concentrate on operations within the authorized purposes of the projects, but should also consider the potential for operating under modified authorizations.

2) Establish a program of demonstration grants for larger water utilities, authorities, and municipalities to encourage analysis of operations. These grants should require the recipients to thoroughly document their experience and commit them to participate in technology transfer.

3) Assist the States and River Basin Commissions in establishing programs to:

a) help small systems improve operations, and

b) examine the potential for improvement in operations by coordinating or combining the operation of separate systems.

Because the main limitation on our ability to analyze and improve management and operations of water infrastructure is limited by the number of qualified people, the total budget for the activities mentioned above cannot be very large. Between $10 and $20 million annually is about as much as could be well spent. That amounts to less than 1% of the combined construction budgets of the COE and Bureau of Reclamation.

Conclusions

This testimony does not say that expenditures on construction of new water projects should be reduced (in fact I think quite the opposite.) It does not accuse managers of water agencies or utilities of doing their jobs poorly.

What this testimony does say is:

> The state of the art of management of water infrastructure has improved drastically over the past few years.
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> The benefits which can be gained by implementing the state of the art are enormous, particularly relative to the costs.
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> A modest Federal program to encourage the implementation of improved operations will greatly reduce the time required for implementation nationally.
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> Institutions which allow the analysis of joint operations of facilities operated by independence agencies will prove quite valuable.
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> Operations of existing projects are vital to decisions concerning future projects.
>
> There is a shortage of people with the training necessary to convert the state of the art to the state of the practice.
>
> The return on investment for those dollars spent in improving operations will be tremendous.

Thank you for this opportunity to present my ideas.

TESTIMONY OF
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AND
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BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES
OF THE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE
REGARDING
COST-SHARING AND URBAN WATER SUPPLY
S. 1031, THE WATER RESOURCES POLICY ACT OF 1983

Washington, D.C.

June 28, 1983

Statement Of Richard D. Harza

Mr. Chairman, members of the Subcommittee on Water Resources. My name is Richard D. Harza, Chairman and President of Harza Engineering, Chicago, Illinois. With me are Holly Cornell of CH2M Hill Engineers, Corvallis, Oregon, and Laurence D. Bory, Deputy Director of Governmental Affairs for ACEC. We are pleased to have this opportunity this morning to address cost-sharing as it relates to urban water supply. The American Consulting Engineers Council (ACEC) endorses S. 1031, the Water Resources Policy Act of 1983, and urges amendments to it to require federal agencies to rely more on the private sector, in the development of water resources projects.

We will make a brief general statement about federal water projects policy and then specifically describe a major urban water supply project totally funded by local sources to show that 100 percent cost-sharing can and does work.

ACEC is an association of 3,800 private engineering firms employing more than 120,000 engineers, scientists and technicians. More than 25 percent of our member firms are civil engineering firms that perform planning, design and construction management services for water resources projects. Dams and reservoirs, locks, hydropower generating facilities, stormwater basins and drainage systems, irrigation systems, ports, harbors and marinas, water and wastewater treatment and supply systems, groundwater recharge projects and aquifer monitoring and control systems are designed and built with the technical expertise of consulting engineers.

ACEC and its members have observed four trends in recent years that threaten the future development and maintenance of our water infrastructure:

1. An increasing reliance and dependence upon federal funding for water projects of all kinds;
2. An increasing demand for uniform national standards or criteria for design of water projects which would inhibit tailoring projects to local conditions and applying innovative design criteria;
3. An increase in the time and money needed to construct water projects due to the bureaucratic delay that accompanies federal involvement; and
4. A neglect of rehabilitation, maintenance and upgrading of existing water resources facilities because federal funding focuses on new construction. The deteriorated condition of the nation's water infrastructure is in part a result of the political attraction of new construction starts.

Water projects funded through the Corps of Engineers, the Bureau of Reclamation, the Tennessee Valley Authority and the independent power commissions have an abysmal record of delay and inflated project costs. A recent General Accounting Office (GAO) report suggested that the Corps of Engineers could achieve greater savings through increased use of value engineering. The average federally funded water resources project does not receive construction funding from Congress until more than 20 years after preliminary feasibility studies are authorized. Each year agencies must ask Congress again for funding of ongoing projects, making the financing of water resources projects essentially a political process. Need, technical feasibility and cost-effectiveness, not politics, should be the primary determinants in selection of projects for funding, as the ACEC supported 1982 revisions to the Department of the Interior's Water Criteria and Guidelines stated.

ACEC's members believe local funding through cost-sharing can alleviate many of the problems outlined above.

Specifically, the cost-sharing concept incorporated in S. 1031 would reduce project costs and accelerate completion by:

- Acceleration of feasibility studies

Local funding of feasibility studies can cut as much as five to seven years off the current 20-year-plus average. Many projects languish for years while the Corps establishes its own internal priorities. Early completion of preliminary studies by private engineers would permit projects to be acclerated toward design approval, and eliminate non-cost-effective technical solutions from consideration. This can save 20 to 30 percent of final construction cost in inflation alone.

- Advanced purchase or options on land acquisition

Many federally funded projects struggle through the funding process only to be further delayed because necessary land acquisition, rights-of-way or condemnations have not commenced. Beginning of the land acquisition process after completion of the feasibility studies may save 25 percent in land inflation and forestall speculative purchase in anticipation of federal funding.

- Advanced commitments of local financing

Establishing a source of local financing in advance of construction approval can also save time and money. Creation of an industrial development authority and preparation of a private investment package (often called "privatization") plan in advance can significantly reduce costs and stimulate local interest and business support for the project. Advance local financing also encourages ancillary taxable investment directly resulting from the project. This may save an additional ten percent.

Local financing of design using local private sector engineers and local participation in construction, such as advance purchase of equipment, are other examples of cost-sharing strategies. It has been conservatively estimated that cost-sharing could reduce project completion times by more than half and total project costs by more than 60 percent in inflation-related savings alone.

Local funding can be accomplished through user fees that reflect the value of the water service. The federal government can create incentives for beneficiaries of funded systems to repay the local share and the operation, maintenance, capital replacement and rehabilitation costs. This will not only reduce the demand for federal funds and the pressure on the federal deficit, but spread the availability and incentive of federal funds further.

The Reagan Administration has consistently asserted that federally funded projects that have an identifiable group of local beneficiaries should be required to share costs if they are "enterprise" derived -- that is, if fees are generated from the federal facility or service. ACEC supports this position. Most water projects primarily benefit local, not national users but such national interests as economic development, energy generation, improved navigation and water quality improvement are generally also served by water resources projects. The funding ratio between federal and local sources should, ideally, reflect the proportionate local and national benefit.

Is cost-sharing practical, can it be the basis for significant water project development? ACEC believes it not only can, but does, and offers an example of a project that was financed through local "enterprise" funding without any federal participation and, consequently, at substantially less cost and far less time.

In the late 1960s the Bureau of Reclamation did some preliminary studies for a major water supply and flood control project on the South Platte River in Colorado. The project contemplated a high and low dam to capture snow melt and provide municipal as well as agricultural water for Denver and the surrounding area. It would also complement an existing flood control reservoir.

It became clear that federal funding for the project was going to be a long-term proposition. The Denver Water Board decided that the Foothills portion of the project was too important to rely on the distant future chance of federal funds. Since this was critical for a reliable source of water for municipal and industrial purposes for the city and its expected rapid growth, the Water Board decided to undertake the project itself.

After additional analyses for location cost and engineering features it was decided to design and build a system with three major components: (1) a dam and impoundment on the South Platte River, (2) a water supply tunnel to take water from the dam to the (3) treatment plant which would eventually double the total water available to the city.

The Denver Board of Water Commissioners selected three private sector engineering firms each with specific experience and skills to plan and design each project component:

- Harza Engineering Company, Chicago, Illinois, my own firm, was selected to design the dam. We decided a double curvature thin-arch concrete dam was the most appropriate cost-effective and efficient technology. The Strontia Springs Dam, by its unique design, uses less than half the concrete of a traditional dam. Its location provides an assured water supply for Denver fed by gravity to virtually eliminate pumping. Hydroelectric generation can be added later. The design was developed using up-do-date computer models which permitted testing a wide variety of alternatives to combine safety, cost-effectiveness and ease of construction. Design and construction were completed in seven years, and our estimates were less than one percent different from the $36.4 million construction cost.

- DMJM/Phillips, Reister, Haley, Inc., Denver, Colorado, were chosen to design the water supply tunnel. This three-mile-long, 10.5-foot-diameter, concrete-lined tunnel connects the intake tower behind the dam with the treatment plant. Design and construction required nine years and cost $22 million dollars, $2 million under design estimates.
- CH2M Hill, Corvallis, Oregon, designed the treatment plant. The plant is fully automated and computer controlled and provides water of quality which exceeds EPA drinking water standards. One hundred twenty-five million gallons per day are treated which increases the total treated water capacity of the city by 25 percent. The design contemplates three additions to the plant capacity, one of which is now being designed. This addition also of 125 mgd will increase the city's capacity to 750 mgd. Ultimately, the plant will double the treated water capacity.

The plant has several innovative design features which save significant operating costs:

- A 3,000 kw hydroelectric turbine installed in the headworks (the point at which the water supply tunnel enters into the treatment plant) driven by the raw water flow generates all the electricity needed to operate the plant with surplus sold to a local electric utility. Estimated annual savings $400,000.
- Because the plant was located several hundred feet above the city power to pump finished water is reduced 38 percent an estimated annual saving of $1.1 million.
- The plant can be run by only two operators. Automation of processes and computer run instrumentation assures maximum efficiency of chemical and energy utilization and reduces unnecessary labor costs. Management data gathering and analysis such as inventory control, maintenance schedules, permit compliance statistics are also built into the system.

The plant was completed for $50 million consistent with design estimates and was delayed only by a four-month construction strike. Finished water was available to the system in June, 1983, as projected in the schedule.

Finding a comparable federally funded project would be very difficult. But based on conservative averages we estimate that this project which cost over $108 million and took approximately ten years to design and construct would not even have been approved for design had the city chosen to await federal funding. Using a very conservative 20-year planning-to-construction cycle and an inflation rate of six percent (half the average construction inflation rate over the last ten years) the project would not have been completed until 1996 and would likely cost more than $228 million. This does not include increased costs due to federal requirements such as Davis-Bacon and other social and environmental regulation.

We suggest, therefore, that the following principles be added to the water resources legislation to accomplish the important national objectives we all desire in water development:

1. Greater reliance on the private sector, especially for engineering and other technical services, such as value engineering;
2. Encouragement of innovative and creative designs that increase cost-effectiveness; and
3. Greater flexibility in national standards in response to local conditions or professional judgment.

These changes are in the public interest because private consulting engineers and construction contractors have unparalleled experience in designing and building water projects for both public agency and private industrial clients, such as power companies. Their record for cost-effectiveness, innovation and on-time, under-budget completion cannot be matched. Local governments and private beneficiaries which will be paying between 30 and 100 percent of the cost under the cost-sharing proposal should have the benefit of private sector engineering skill and know-how.

The realization of the federal-local partnership envisioned by the proposed legislation will be aided immeasurably by the participation of the private sector. The Corps of Engineers and the private sector have worked together to build water resources projects throughout the United States and across the globe. It was not so long ago that our water projects were the envy of and model for the world. Inflation, delay and excessive federal spending have eroded some of that leadership. But renewed and reformed federal cost-sharing policy can make local governments and states partners in that leadership position, not dependents in a federal water welfare program.

We appreciate the opportunity to present our views on this legislation.

STATEMENT BY

THE URBAN DRAINAGE
AND FLOOD CONTROL DISTRICT
DENVER METROPOLITAN AREA

TO THE

WATER RESOURCES SUBCOMMITTEE

OF THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

JUNE 28, 1983

The Urban Drainage and Flood Control District of Metropolitan Denver welcomes the opportunity to provide a statement for the record to this Subcommittee concerning the proposed flood control project on Westerly Creek in Aurora and Denver, Colorado. This project is included in Title II(c)(9) of S. 947.

The Corps of Engineers has completed a feasibility report on the project and has recommended flood control measures in the basin, designed to control the standard project flood and protect a heavily urbanized area downstream of Lowry Air Force Base.

The total flood control plan consists of construction of a channel from Lowry Air Force Base downstream to Stapleton Airport. This channel is a necessary part of the total flood control plan in that it provides an outlet for existing and proposed detention facilities on Lowry Air Force Base. The existing Kelly Road Dam on Lowry Air Force Base would be modified and a new improvement, Upper Lowry Dam, would be constructed on the upstream portion of Lowry Air Force Base. Two channels would also be constructed to convey drainage through the Air Force Base and into the Upper Lowry Improvement.

The Urban Drainage and Flood Control District supports the Corps' proposed flood control plan. The Corps' plan will effectively meet the flood control needs of the area and will produce the desired benefits. The UDFCD, the State of Colorado and the cities of Denver and Aurora have participated with the Corps in the development of the plan and are in full agreement with the plan.

Drainage improvements upstream of Lowry Air Force Base to be constructed by local interests are also badly needed. However, these upstream drainage facilities cannot be constructed by the local interests until the Corps' proposed flood control improvements are completed. Thus, the Corps' proposed improvements are an integral and vital link in a total system of drainage and flood control improvements.

We are concerned that excluding certain elements of work which have been completed or will soon be completed by local interests presents a distorted view of the sharing of costs between Federal and local governments. We do not agree that the downstream channels should be excluded from the evaluation of costs and benefits attributable to the plan. The downstream channels were designed to operate as an integral part of the entire flood control system and are needed to handle releases from Kelly Road Dam and Upper Lowry Dam. As of this date, the UDFCD, Aurora, and Denver have completed design at a cost of $295,900, have completed $3,642,100 of channel improvements, have completed $1,946,500 of channel construction, and have now underway the final phase of construction which is estimated to cost $1,231,100. Thus, local interests have already spent or committed $7,115,600 for the project.

Also, in considering the elements of work in the Corps' report, we do not agree that the two channels designed to carry water through and away from the golf course on Lowry Air Force Base and into the Upper Lowry Dam should be a responsibility of local interests. Construction of the Air Force Base and golf course by the Federal Government obscured any drainage courses that may have previously existed, and the two new channels are required only to lessen flooding on the golf course during periods of intense rainfall. Construction of these channels, estimated to cost $680,000 and their maintenance, should be assigned to the Federal Government.

In summary, we urge this Committee and Congress to authorize the Westerly Creek flood control project. The Urban Drainage and Flood Control District as well as Denver, Aurora, and the State of Colorado support the construction of the flood control improvements proposed by the Corps. These improvements are critical to the communities involved both from the standpoint of downstream flood protection and in making it possible for local interests to solve upstream drainage problems. However, the Corps should recognize the full amount of local contribution to flood control features that are necessary parts of the overall plan, and not be limited to just those elements that are listed for Federal accomplishment. The cost of the flood control work completed by local interests should be recognized when determining the amounts of Federal and non-Federal cost sharing amounts in keeping with the concepts of Section 134(a) of PL 94-587. Also, the two channels passing through Lowry Air Force Base and leading into the Upper Lowry Dam should not be a local responsibility as now recommended by the Corps.

We are providing detailed information for the record in a Background and Summary of Status Statement, June 1983. Also, the Corps of Engineers has solicited a further showing of our intent to participate in this project in consonance with the Department of the Army's proposed policies for up-front financing and cost sharing. A copy of our letter to the Omaha District Engineer of July 1, 1982, which discusses cost sharing aspects and reaffirms our intent to participate in this project, is also provided for the record.

Scott Tucker
Executive Director
Urban Drainage and Flood
Control District of
Metropolitan Denver

WESTERLY CREEK FLOOD CONTROL PROJECT
Background and Summary of Status

Prepared by:
Scott Tucker
Urban Drainage and Flood Control District
June 1983

1. PROBLEM: Frequent flooding occurs in a highly urbanized basin located in Denver/Aurora area of metro Denver, Colorado. The basin is about 18 sq. mi in size. The major drainageway draining the basin is known as Westerly Creek.

2. JOINT LOCAL AGENCY AND CORPS PLANNING: A joint planning effort was begun in April 1974. Study cost was $83,400 and was funded by the Urban Drainage and Flood Control District (50%), Aurora (25%), and Denver (25%). The involved parties entered a multijurisdictional agreement with a consulting engineer to conduct the planning study. The parties to the agreement were the Urban Drainage and Flood Control District (UDFCD), Denver, Aurora, Lowry Air Force Base, and the Corps of Engineers. Both Lowry and the Corps participated actively in the study, with the Corps conducting hydrology and benefit/cost analyses. The planning effort resulted in a report entitled "Major Drainageway Planning - Westerly Creek" by Camp Dresser and McKee, Consulting Engineers, dated February 1977 which presented a plan acceptable to all parties.

In 1981 the UDFCD, Aurora, Denver, and Arapahoe County jointly funded an update of the masterplan for a portion of the basin upstream of Lowry Air Force Base. The cost of this study was $16,000 and was borne by the local entities involved. The recommendations are contained in a report entitled "Storm Drainage Planning, Upper Westerly Creek Outfall Systems", dated March 1982.

3. CORPS PLANNING EFFORT: The Corps conducted and completed an effort called "The Metropolitan Denver and South Platte River and Tributaries Study" (Metro Denver Study) in response to resolutions adopted by the U.S. Congress in 1956 and 1971. The flood control plan developed for Westerly Creek was the only project in the Metro Denver Study recommended by the COE for Congressional authorization at this time.

4. CORPS' RECOMMENDED PLAN FOR WESTERLY CREEK: The Westerly Creek plan as presented by the Corps in the Denver Metro Study final report is consistent with the plan developed in the joint local agency and Corps planning effort previously described. The proposed plan consists of the following elements:

   a. improvements to Kelly Road Dam
   b. construction of a new detention dam on Lowry Air Force Base (Upper Lowry Dam)
   c. channel improvements downstream from Lowry Air Force Base (downstream channel improvements)
   d. channel improvements through Lowry Air Force Base and into Upper Lowry Dam (upstream channel improvements)
   e. miscellaneous other components including additional upstream detention and drainage improvements, development of an emergency evacuation system, and floodplain regulation.

5. FEDERAL INTEREST: The Corps in their Metro Denver Study report declared a federal interest only in improving Kelly Road Dam and in constructing the proposed Upper Lowry Dam. The Corps' position is that there is no federal interest in channel improvements downstream from Kelly Road Dam or in the channel improvements through the Lowry Air Force Base and into Upper Lowry Dam. This does not make sense because the improvements to Kelly Road Dam,

construction of Upper Lowry Detention Dam, and the downstream channel improvements, and the upstream channel improvements are interdependent and interrelated. They cannot be separated as independent projects. Also, the channel improvements into the Upper Lowry Dam are for the benefit of Lowry Air Force Base and its golf course. These channels are needed to convey flows in an orderly manner through the Lowry Golf Course and into the Upper Lowry Dam.

6. LOCAL ACTION: Because of the critical importance of the downstream channel improvements the local agencies have proceeded on their own. Final design was initiated in November 1977 by Denver, Aurora, and the Urban Drainage and Flood Control District at a total cost of $295,900. Design is complete and thus far two of four construction contracts (starting downstream and working upstream) have been completed at a cost of $3,642,100. The third construction contract has been completed at a cost of $1,946,500. The fourth construction contract is now underway and is estimated to cost $1,231,100. The entire cost of downstream channel improvements (except for a $300,00 State contribution) has been borne by local agencies, i.e., the Urban Drainage and Flood Control District, Aurora, and Denver.

7. STATE CONTRIBUTION: The State of Colorado contributed $300,000 to Westerly Creek which was applied to the first construction effort.

8. CHANNELS ON LOWRY INTO UPPER LOWRY DETENTION DAM: The Corps has recommended in its report that two channels located on Lowry Air Force Base (federal property) are a local responsibility. This does not make sense. The purposed of these channels is to convey water into the proposed Upper Lowry Dam from upstream. These channels are needed because historic channels on Lowry have been obliterated and/or modified by Base construction activities. These two channels are integral parts of the Upper Lowry

Dam, and cannot be separated out "as a local responsibility".

9. PROBLEMS UPSTREAM OF LOWRY AIR FORCE BASE: Drainage problems have existed for many years upstream of Lowry. Many of the remaining problems cannot be solved because facilities that would direct flows through Lowry, their natural path, cannot be constructed by local agencies until the proposed Upper Lowry Dam is constructed. Thus, local agencies are prevented from solving problems existing in the upper part of the basin (upstream of Lowry).

10. TOTAL PROJECT COST AND COE RECOMMENDED LOCAL/FEDERAL COST SHARING: The elements of the project described herein are all necessary and interrelated. Together they comprise the minimum required flood control effort. The COE in their Metro Denver Study recommended local agency/federal cost sharing that was proposed by then - President Carter. President Carter's recommendations were never accepted by Congress and the present Administration has proposed a different cost sharing formula. Summarized below are costs and status for various segments of the project:

				COE Recom. Cost Share	
Segment or Activity	Status	Total Cost	Who Paid	Local Agency	Federal
Floodplain Mapping	Complete	$ 5,500	Local	100%	0
Planning	Complete	99,400	Local	100%	0
Emerg Repairs to Kelly Dam	Complete	1,060,000	Federal	0	100%
Final Design of Channel	Complete	295,900	Local	100%	0
Downstream Channel Const.					
1st Phase	Complete	1,132,100	Local	100%	0
2nd Phase	Complete	2,510,000	Local	100%	0
3rd Phase	Complete	1,946,500	Local	100%	0
4th Phase	Underway	1,231,100	Local(1)	100%	0
Modify Lowry Dam and Con. Upper Lowry Dam	Not Auth.	8,620,000(2)		(3)	(3)
Lowry Channel Imp.	Not Auth.	680,000(2)		100%	0
Total Proj. Cost		$15,580,500			

Local Interests have already spent $7,220,500 or 41% of the above listed project costs.

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(1) Local Agency Estimate, 1982 Dollars
(2) COE Estimate, October 1981 Price Levels
(3) The Chief of Engineers report of 12/23/81 recommends authorization subject to cost sharing and financing arrangements which are satisfactory to the President and Congress

Total project cost is $17,580,500. This does not include the economic value for lands (all located on Lowry Air Force Base) needed to modify Kelly Road Dam or to build Upper Lowry Dam. Kelly Road Dam is already in existence and additional lands needed are minimal. Upper Lowry Dam will be located on a golf course, the use for which will not be affected by the dam. The above cost also does not include needed drainage improvements upstream of Lowry, which will be a local agency responsibility.

11. STATUS OF PROJECT AUTHORIZATION: The COE has recommended Congressional authorization of the Westerly Creek flood control project as set forth in the Metro Denver Study subject to cost sharing and financing arrangements satisfactory to the President and Congress. Details of its recommendations are contained in Vol. III C, "Flood Control Plan Formulation," Appendix A, "Supplement for Westerly Creek," Colorado, January 1980. The Metro Denver Study and the Westerly Creek flood control plan were prepared by the Omaha District office of the COE. The Westerly Creek Project has been reviewed and approved by Missouri River Division office of the COE, and by the Board of Engineers for Rivers and Harbors. The Board of Engineers concluded that flood control measures in the Westerly Creek Basin should be recommended for federal action at this time. The Chief of Engineers in his report to the Secretary of Army dated 12/23/81 recommended authorization of the project subject to cost sharing and financing arrangements satisfactory to the President and Congress. The House Committee on Public Works and Transportation heard testimony on the project from the Corps and local interests in June and July, 1982.

12. CRITICAL ISSUES: The local agencies involved (Urban Drainage and Flood Control District, Denver, Aurora) support the elements of the plan proposed by the COE. Also, the Urban Drainage and Flood Control District has indicated its willingness to be the local sponsor for the project. There are several critical issues, however, that are of concern to the local agencies. These concerns involve COE recommendations on cost sharing and federal/local agency responsibilities. These critical concerns of the local agencies are summarized below.

A. Proposed Cost Sharing: Federal/local-interest cost sharing has undergone considerable debate and scrutiny in recent years. Federal policy on this issue at this time has not been decided. Whether it is an 80%-20% federal-local split or 65%-35% is not a serious issue in this situation, if the full contribution of the local interest is recognized. What does not make sense and is inconsistent with any present or proposed federal policy is for local interest to pay 100% for a portion of the project and then share other portions of the project on a different basis.

B. Responsibility for Downstream Channel Improvements: The COE in the Metro Denver Study concluded that the "proposed downstream channel improvements are within the magnitude of drainage improvements and are therefore a local responsibility." The fact is that the downstream channel improvements meet current COE criteria in order to be addressed under existing flood control authorities. The downstream channel improvements are flood control improvements per the COE's own criteria.

The COE criteria per rules adopted and set forth in the Federal Register, Vol. 45, No. 212, October 30, 1980, paragraph 238.7a are as follows:

> "Urban water damage problems associated with a natural stream or modified natural waterway may be addressed under the flood control authorities downstream from the point where the flood discharge of such a stream or waterway within an urban area is greater than 800 cubic feet per second for the 10-percent flood...under conditions expected to prevail during the period of analysis. Those drainage areas which lie entirely within the urban area and which are less than 1.5 square miles in area shall be assumed to lack the adequate discharge to meet the above hydrologic criteria."

The flows in Westerly Creek do exceed 800 cfs for a 10-percent flood and the drainage area is well in excess of 1.5 square miles. The area tributary to Kelly Dam is 10.5 square miles and the flow rate for the 10-percent flood at a point about 4 blocks downstream of Kelly Dam is 1,600 cfs.

C. Credit for Work Accomplished by Local Agencies: The local agencies have proceeded with construction of downstream channel improvements. Total cost of final design and work completed or underway is $7,220,500. The fact that local agencies have taken the initiative to construct the urgently needed downstream channel improvement should not penalize the local agencies. Based on the rules and facts set forth in this and preceding paragraphs, the downstream channel improvements could be addressed by the COE under existing flood control authorities. At the very least these improvements should be recognized as flood control and the local agency costs committed thereto should be recognized and applied toward the non-federal contribution.

D. Responsibility for Channel Improvements into Upper Lowry Dam (Upstream Channel Improvements): The COE in the Denver Metro Study concluded that "The two channel improvements into Upper Lowry Detention Pond are to convey drainage from the upper basin across Air Force lands and are therefore a local responsibility." In actuality these two channel improvements are needed to convey flows across the Air Force golf course in an orderly fashion because the historic channels have been obliterated or modified by Base construction activities. If these are local drainage channels, they are for the benefit of the Air Force. No benefit to local agencies accrues because of construction of these two channels on Air Force lands. There is no logic to making them the sole responsibility of the local agencies. The cost for these channels should either be a federal responsibility or shared on a reasonable basis.

OMNIBUS WATER RESOURCES LEGISLATION

Inland Waterways Policies and Projects

MONDAY, JULY 18, 1983

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON WATER RESOURCES,
Washington, D.C.

The subcommittee met at 10:08 a.m., in room SD-406, Dirksen Senate Office Building, Hon. James Abdnor (chairman of the subcommittee) presiding.

Present: Senators Abdnor and Randolph.

OPENING STATEMENT OF HON. JAMES ABDNOR, U.S. SENATOR FROM THE STATE OF SOUTH DAKOTA

Senator ABDNOR. The subcommittee will come to order.

This is the 10th hearing of the Subcommittee on Water Resources since April 22 of this year. We haven't been sitting idly by. The subcommittee has heard from over 50 witnesses on many controversial issues in an effort to lay the foundation for an omnibus water resources bill.

None of the issues which have been discussed is more complex or emotionally charged than the problem we will address today. Let me define this problem clearly so we know where we are.

The inland waterways system of the Nation is in charge of a large infusion of capital for rehabilitation and maintenance at a time when the number one economic problem is the annual budget deficit. To be specific, current budget projections indicate that inland navigation maintenance costs will be $1.8 billion over the next 5 fiscal years. Expenditures for inland-related construction will run another $1.3 billion over this same period. In addition, the six lock rehabilitation projects most often mentioned as candidates for authorization have a combined price tag, including inflation in future years, of another $1.3 billion. Now, in total, this represents a short-term Federal commitment of nearly $4.5 billion. That is quite a staggering sum, I am sure you will have to agree.

By comparison, the receipts from the gas tax enacted in 1978 with the Inland Waterways Revenue Act will total less than $300 million over the next 5 years.

I think it is fairly obvious that the level of subsidy which these projects indicate is indeed large. I should think that it is obvious that the Congress, faced with large deficits in the next few years, is not likely to appropriate sums like these for the inland waterways system so long as these funds come from general revenue.

I am from an area of the country which has a vital interest in the inland waterways system. I do not believe this situation can continue. I am interested in hearing from today's witnesses. I hope to detect an awakening sense of the need for compromise.

I want today's witnesses to know beforehand that I believe a dialog and compromise represent a road toward the sound future for the inland navigation system. We are making progress toward resolving the issues of our deep port water fees and water project cost-sharing in this area. The new partnership between the Federal Government and the users and the beneficiaries of the inland navigation system is also achievable provided we all recognize that the greatest threat to preserving the system is the belief that we can continue business as usual.

So, with that, we will get down to our testimony today. We are going to start out again with the Assistant Secretary of the Army for Civil Works.

First, Senator Randolph, we are happy you are here. The committee would have a hard time functioning without you.

Senator **Randolph**. Thank you.

Senator **Abdnor**. Go right ahead.

OPENING STATEMENT OF HON. JENNINGS RANDOLPH, U.S. SENATOR FROM THE STATE OF WEST VIRGINIA

Senator **Randolph**. I appreciate it very, very much.

This is an important hearing, Mr. Chairman, a very important hearing. You and the members of the subcommittee and others of us on the full committee, are looking into a continuing crucial problem. We have not authorized any inland navigation projects since, as we recall, locks and dam 26 was authorized, and that was in 1978. We remember the long siege, I call it siege, in connection with that subject. The members of the committee have not produced an omnibus water resources bill which could be enacted into law since 1976.

I express appreciation to you, Mr. Chairman, for having this hearing today. I want to focus attention to an area that includes the Ohio River. On that Ohio River, which is one of the major inland waterways of this country, there is a bottleneck, a bottleneck which is intensified because of the failure of the locks and dam at what we call Gallipolis, Ohio.

Across from Gallipolis, of course, on the Ohio River is the State of West Virginia. We have the area of Point Pleasant and other towns along the West Virginia side. But this bottleneck continues. There can be no effective, efficient movement of commerce because we have not done the necessary rebuilding and replacement at what we call the Gallipolis locks and dam, the last to be rehabilitated. It must be modernized if we are to move those products of the farm, the factory, the field, and the mine to the consuming public. That, of course, is not only up but down this critical river system.

In 1981, 159 tons of traffic moved on the total Ohio River system. This is a figure that is down from the peak year of 165 million tons in 1978. With the return, hopefully, Mr. Chairman, to a more wholesome, growing economy, tonnage will improve and the need for the facility that I am focusing our attention on will be even greater as each month passes.

As you know, coal is not the only product which moves on the Ohio River. While it is the single largest commodity hauled at approximately 94 million tons a year, other major products, particularly chemicals and chemical products, move on the bosom of the Ohio River.

Mr. Chairman, it is not enough for us to say we must resolve this problem. We could say that over and over again. And understandably, why, we mean to solve it. But this is a time, as we have noted a few months ago, when it was necessary to rehabilitate the bridges and highways of this country or else our system, the network of transportation, would have deteriorated to a point of no return. So it is not enough to say we have to act. We must act. It is necessary that we act. We have to move to resolve the problem of user charges. It raises its head every time we discuss this subject. User charges is a subject that we understand. But if we did not resolve that basic problem, Mr. Chairman, which I believe is inherent, we will not be able to move an important project like the Gallipolis locks and dam because we just will not get to the specific project.

Now there are several projects which we know are important to West Virginia, and to other States, and they can, Mr. Chairman, be authorized for rehabilitation. We have an efficient transportation system in our country. It includes, of course, our network of roads and bridges, our network in some instances of transit authorities. But at the present time I suspect the decline in one form of transportation as against the other would rivet on the inland rivers of this country, with the long-neglected rebuilding and rehabilitation of locks and dams.

We are trying to move and we are moving to the rehabilitation of the highway program. The first definite step for quite some time was last year. Although that was not a jobs program, there are thousands and thousands of people being employed. It seems to me it is not for me to reemphasize the necessity of moving as quickly as we can. I know you and other members of the subcommittee and the committee will try to do that. But, Mr. Chairman, I would like to pledge you my efforts to come up with a methodology by which the committee can better function to bring this subject to the attention of the Senate itself. So if we are to have an effective, efficient, viable inland waterways system, from the standpoint of navigation, the time is now, not 1 year later, 2 years later. So certainly Senate bill 1554 is the basis for action.

I want to, as I have said, join you in moving forward. If we continue to take these timid steps, that will not suffice. We have to make an all-out effort within this committee and the Congress, joined by the administration and the appropriate agencies of Government, to see that action comes and it comes quickly.

I thank you, Mr. Chairman.

Senator ABDNOR. I thank you, Senator Randolph. As usual, your wisdom and years of experience and expertise has once again brought us to the problem and you put it before us exactly as it is.

We have been long enough in trying to come up with some answers. Not that we have any immediate answers, but we are going to come to them. I pledge to you that I am just as determined as you are to see that we come up with some legislation. I guess we are going to come from different areas when we talk about construction of our dams or ports. Inland water is something we have to get on with. Hopefully, after a few more hearings we will be in a position to start moving. I just hope we can get our committee together and be as determined as you and I are to see some action brought. I am sure with your drive and determination we will.

Senator RANDOLPH. I am sure our able chairman of our committee feels as you and I do. Thank you.

Senator ABDNOR. Thank you.

With that, we are going to call on our first witness. Once again we call the Assistant Secretary of the Army, William Gianelli, whom we rely heavily on for the views of the administration. Also with him again is General Wall and Dr. Dickey.

We are happy to have you here today and we hope you can get us off to the right start.

STATEMENT OF WILLIAM R. GIANELLI, ASSISTANT SECRETARY OF THE ARMY FOR CIVIL WORKS, ACCOMPANIED BY MAJ. GEN. JOHN WALL, DIRECTOR OF CIVIL WORKS, CORPS OF ENGINEERS; AND EDWARD DICKEY, STAFF ECONOMIST, OFFICE OF THE ASSISTANT SECRETARY

Mr. GIANELLI. Thank you very much, Mr. Chairman, and Senator Randolph. For the record, I am William Gianelli, Assistant Secretary of the Army for Civil Works. On my left is Maj. Gen. John Wall, who is Director of Civil Works for the Corps of Engineers. On my right is Dr. Edward Dickey, who is the staff economist for the Office of the Assistant Secretary.

Mr. Chairman, I have a prepared statement which I will give and perhaps capsulize a little bit for the committee's purpose. Also, the end of last week you asked several questions. While they are not in my prepared statement, I will be prepared to respond to them at the close of the prepared statement, if I may.

Senator ABDNOR. Fine.

Mr. GIANELLI. Thank you very much, Mr. Chairman.

Mr. Chairman, Senator Randolph, it is again a pleasure to appear before this subcommittee to present further testimony on elements critical to the formulation of a new basis for moving ahead on a rational and systematic water resource investment program.

Indeed, the subjects of this testimony, cost recovery for and expedited planning and implementation of inland navigation projects, are essential to assure modern inland waterways which are responsive to the changing demands of the Nation's commerce.

The committee is to be congratulated for its willingness to address these complex issues so extensively and thoroughly. I am most hopeful that the result will be new comprehensive legislation that will enable the Federal Government to better respond to the problems faced by water users in general and the navigation industry and shippers in particular. Without such legislation, the Federal water program will continue to stagnate.

I think that has been well pointed out by Senator Randolph in his earlier comments this morning.

First of all, with respect to a brief background, waterways have served economic development in the United States throughout its history. Today our Nation's waterways system, improved and operated by the Army Corps of Engineers, moves 16 percent of the intercity freight and serves over 80 percent of the Nation's cities. Water transportation provides low cost, energy efficient and safe transit of heavy and/or bulk commodities.

The Nation's waterways provide for an unusual combination of public and private enterprise. Additionally, waterway projects are often authorized to serve other water uses, such as municipal and industrial water supply, production of hydroelectric power, flood control, irrigation, and general recreation as well as support fish and wildlife habitats.

The subject of inland navigation cost recovery is not new. There has been increasing recognition that the Government does not serve its citizens or the direct beneficiaries well when it provides commercial services on terms that are less than businesslike. A lack of any market test of Government waterway fund expenditures has led to a waste of taxpayers' money, languid and limited responsiveness to changing industry circumstances, and misallocation of resources because of inappropriate shippers' choices of transportation mode.

Our current economic situation is such that we cannot continue past practices. The existing waterway system is confronted by increases in traffic which result in growing, and costly, delays at certain facilities as traffic volume presses against existing lock capacities. At the same time, many of the waterway structures are approaching the end of their design and economic lives and will require replacement and/or major rehabilitation. These are the kinds of expenditures that we cannot afford to continue to subsidize in this era of mammoth budget deficits.

The administration's legislative proposal to recover from the users costs of the Corps of Engineers and the Tennessee Valley Authority assigned to commercial waterway transportation is contained in S. 1554, introduced by Chairman Stafford, by request, on June 28, 1983. The bill provides for substantial cost recovery for the Nation's inland waterways, authorizes use of the inland waterways trust fund to finance future work, and generally expedites future project planning, authorization, and implementation.

Moving on to the subject of fees for cost recovery and for waterway efficiency. The administration's proposal for user fees on the inland navigation system reflects the results of the Departments of Transportation and Commerce impact study of inland navigation user fees authorized by section 205 of the Inland Waterways Revenue Act of 1978. This study showed that all waterways can remain open with the form of cost recovery we are proposing. I want to present to the committee today the major elements of the administration's proposal and their supporting rationale.

First, 70 percent of operation and maintenance costs assigned to commercial waterway transportation would be recovered on a systemwide basis, as opposed to a segment-specific basis. The fee for fiscal year 1984 would amount to 1.1 mills per ton mile and would raise about $213 million in fiscal year 1984, if it were in place. This fee would be adjusted at least every 5 years to maintain the 70 percent recovery level.

Systemwide recovery of operation and maintenance costs recognizes that the existing system is the result of past investment decisions which were not evaluated in light of the feasibility of cost recovery. It permits recovery of costs assigned to commercial waterway transportation with minimal disruption of existing traffic patterns and allows all waterways to remain open.

I believe that subsidization of the higher cost elements is proper given: First, the interrelated and interconnected nature of the major inland systems; and second, the administrative simplicity inherent in the systemwide approach for recovery of operation and maintenance costs.

Third, 70 percent of future capital costs would be recovered on a segment-specific basis. To be precise, 70 percent of costs assigned to commercial waterway transportation for projects or physically separable project features as determined by the Secretary of the Army, initiated in fiscal year 1984 and beyond, would be recovered from users as benefits are received over the economic life of the project. By requiring the direct beneficiaries to pay the costs of future investment expenditures, we believe the Government would receive better advice from users as to the type and timing of capital improvements than is now the case where improvements are made at no cost to the users or would be the case were these costs to be shared by waterway shippers who would not directly benefit.

The mechanism for recovering both systemwide operation and maintenance costs and segment-specific capital costs would be the ton-mile fee. The operation and maintenance fee would be the same throughout the system, with a surcharge required for those specific segments enjoying the benefit of a capital improvement undertaken in the future. The ton-mile surcharge would be based on recovery from beneficiaries of 70 percent of the cost of the improvement assigned to commercial navigation with interest over its economic life.

I want to mention the reasons for selecting the ton-mile fee as the cost recovery mechanism. The ton-mile fee can be used to recover costs on both a segment-specific and on a systemwide basis. A ton-mile fee does not distort the relative cost of any of the resources waterway operators use to provide their services and so does not affect the choice of methods of providing that service. Finally, the ton-mile fee is administratively simple to collect as it uses basically the existing shipment reporting mechanisms and institutions employed by the Corps of Engineers.

I also want to point out that the administration's bill will give the Secretary of the Army authority to impose congestion fees where long delays are generated by traffic which exceeds the operating capacity of a lock. A congestion fee could be used to allocate limited lockage time to the traffic with the highest benefits during the period between the time that a lock becomes congested and the time when a larger facility can be justified and constructed.

I have a few more comments on that in my full statement, and I will comment on it further in response to some of the questions you asked, Mr. Chairman.

In my remarks so far as inland navigation user fees are concerned, I have focused on the form and structure of the fees. I now want to discuss the determination of the costs to be recovered.

Water resource projects often have more than one authorized purpose. In proposing to recover the cost of one purpose, one must address the issue of cost allocation or cost assignment. This is not a new issue, of course. It has been addressed in the past in connection with the recovery of the costs of hydropower and water supply. Recognizing that cost assignment to the various purposes served by a project has important equity and efficiency complications, we believe it is essential that it be addressed explicitly in any legislation authorizing cost recovery. We have made specific proposals in S. 1554 which we believe are reasonable and fair to all users.

Under the administration's proposed cost assignment, the share of operation and maintenance expenditures on projects associated with the inland waterway system assigned to commercial waterway transportation is about 48 percent of the total for these projects. That reflects overall some of the uses our inland waterway uses can be put to.

For individual projects, the amount to be recovered from commercial navigation uses varies according to the nature of the project. For single purpose navigation projects, obviously the amount to be recovered can approach 70 percent. For multiple purpose projects, the amount can be almost nothing. The average for all projects, roughly, is about one-third of the total operations and maintenance costs for projects producing inland waterway transportation benefits.

I want to make that point specifically, Mr. Chairman, because I think a number of the proposals advanced by the administration have not been understood. The thought has been all of the costs proposed would be allocated to the inland waterways system. That is not the fact.

Let me move on to the subject of financing of waterway improvements. The financing of capital improvements on the inland waterways is the responsibility of the Federal Government. Federal funding of improvements with subsequent cost recovery from beneficiaries as the benefits of the improvement are received recognizes that the feasibility of any single improvement is tied to the level of funding provided to the rest of the system and to the specific investments which are made elsewhere in the system. Since only the Federal Government has the responsibility for the whole system, Federal financing of improvement is essential.

In this connection, the inland waterways trust fund, created by Public Law 95-502, is an important mechanism by which funds recovered from current users of the inland system can be used to finance future improvements in the system, at least to some extent.

It has not been possible to use the revenues from the existing tax on fuel used for tow propulsion which is accumulating in the trust fund and which now totals over $80 million to finance new work because there have been no authorizations providing for appropriations from the fund. The Department of the Army's proposed legislation authorizes use of the inland waterways trust fund to finance both operation and maintenance and capital investments.

Let me move on now to another part of the proposal, which is the streamlining of the planning, authorization, and the implementation. As a complement to cost recovery, S. 1554 includes streamlined authority for the Secretary of the Army to study, construct, operate, and maintain new navigation improvements and to rehabilitate and modify existing navigation facilities. Such improvements would be premised on the ability and willingness of commercial users to assist in determining the value of and paying for future projects and would be undertaken in compliance with the substantive provisions of all applicable laws.

Prior to the construction of such an improvement, the Secretary would submit to Congress any final environmental impact statement required by the National Environmental Policy Act of 1969, that is, NEPA, and a statement of the Secretary's compliance at that time with other statutory requirements applicable to the improvement.

These statements and other necessary actions to comply with NEPA and other applicable statutes would be subject to schedules, consistent with existing laws, established by the Secretary, after consultation with other responsible Federal and State officials, that would govern the requirements for administrative review and decisionmaking.

The plan of improvement would be eligible for construction funding and implementation unless the environmental impact statement were disapproved by joint resolution approved by the President within 180 calendar days of its receipt by the Congress. Congress would also continue to exercise its important oversight responsibility through the appropriations process since expenditures from the inland waterways trust fund would continue to require congressional appropriation.

One important source of delay of navigation improvements has been reliance on the judiciary to resolve issues regarding the adequacy of the environmental impact statement for an improvement. We believe such issues are best handled by the executive and congressional review processes. Accordingly, S. 1554 limits the scope of judicial review of the EIS.

Conclusions. Mr. Chairman, the early resolution of cost recovery and user charge issues relating to the inland waterways is essential to permit orderly planning and implementation of future waterway improvements. User charges provide an assured source for financing operation and maintenance as well as rehabilitation and replacement projects.

In providing a new source of funding, user charges affect the volume of traffic on the waterways and thus the timing and magnitude of future improvements in system capacity. Resolution of the user charge issue would provide an environment more conducive to the development of a future investment program that is truly responsive to the users and in their very best interests. An appropriate complement to increased reliance on cost recovery from project beneficiaries is expedited planning, authorization, and implementation of future projects.

Collectively, the Nation's waterways produce benefits far in excess of their costs. Contributing to the cost of providing these waterways is a small price, we believe, for the users to pay for the benefits they receive. The sooner we can operate, maintain, and improve our waterways on a businesslike basis, the more quickly we can have the waterway system that is fully responsive to the demands of commerce.

Mr. Chairman, that concludes my prepared statement. With your permission, I would like to go into the questions which you submitted the end of last week and elaborate somewhat on the responses to those, if I might.

Senator **ABDNOR**. That will be fine.

First let me say, Mr. Secretary, I thank you for your presentation and your proposal. I am sure it had a lot of study behind it. There probably are those in the room who would be critical of it. I want to say, as to the program before us, you are the only one so far who has come forward with any sort of suggestion. There has to be some kind of proposal adopted by this committee. You certainly have given us a point from which to start. We are very appreciative of the presentation you made. You go right ahead.

Mr. **GIANELLI**. Thank you very much.

Let me just say, Mr. Chairman, that was certainly our intent. I think the administration understands that there will obviously be modifications. I think it does give us a base. We have tried to address the basic issues that Congress can consider when it goes forward with the legislation.

With respect to the questions, Mr. Chairman, I will give the questions and then the answers, with your permission.

The first one is what will be the impact of this proposal on transportation costs for grain shipments from South Dakota.

Our response is as follows: In the extreme case, where all costs were passed through to the shipper by the barge industry, the 1.1 mill fee to recover operation and maintenance cost will increase transportation costs for barge shipments from Sioux City to Baton Rouge by about 4.7 cents per bushel of wheat and about 4.4 cents per bushel of corn.

Let me right there state that we looked at the commodity cash prices for last Thursday, July 14, and the price brought by corn, for example, corn, No. 2, yellow, was $3.29 a bushel; for wheat it varied from a cost of $3.51 to $4.46. So I think when you place the perspective of the added transportation cost there, I think you will see that it is a rather small percentage of the total cost or the cash price for those commodities.

Senator **ABDNOR**. Let me ask you, that is with the entire cost being assessed to the product itself? I mean that 4.7 cents. That is the complete package?

Mr. **GIANELLI**. Yes. I think it represents an extreme case, Mr. Chairman.

The second question was what evidence do you have that these barge operators can afford to pay these fees.

Answer: The last few years of recession have been very hard for waterway operators because the sectors which they serve have been particularly depressed. Economic recovery, we hope, is now underway and we can expect the industry situation, certainly we hope again, to improve in the months ahead.

We do not wish to suggest that user fees will not require some shortrun adjustments and that there will not be some pain in the towing industry.

We have made no detailed analysis, but some general observations I believe can be made. The towing industry will, of course, attempt to pass on any user charge, but given the large amount of excess capacity in the bulk transportation industry, it will be forced to absorb most of the increase in cost itself until there is a marked improvement in the level of traffic. This may well result in some marginal firms leaving the industry and a deferral in the acquisition of additional barges by the industry.

In an effort to reduce the adverse impact on the industry, we are proposing only a 70 percent recovery level for operation and maintenance and future capital costs and no recovery at all of past capital expenditures.

From the perspective of the beneficiary of government subsidies, it is never the right time to reduce them. Yet, Mr. Chairman, we believe continuing the present system is not equitable, nor is it consistent with promoting an efficient functioning of the economy, and particularly when you consider the very large budget deficit.

The third question was were any options considered for recovery of inland system costs other than shipping fees of one kind or another.

My response is as follows: No other institutional options were considered. It would be difficult to create a public corporation to operate the waterways because of the multiple purpose nature of many of the projects contributing to the system. Contractual commitments already exist with hydropower and water supply beneficiaries which would substantially reduce the pricing flexibility afforded a public corporation.

The next question was why is authority to levy congestion fees considered necessary, and where are these fees likely to be levied?

Our response is as follows: Congestion fees can make big improvements in the efficiency of waterways with large delays at certain facilities.

Let me digress for a moment, Mr. Chairman, to reflect on a personal experience. As you know, Mr. Chairman, I am Chairman of the Panama Canal Commission, which has to do with the operation of the Panama Canal. Saturday I returned from one of our quarterly commission meetings in Panama.

One of the items that the commission discussed down there was a booking system which it had instituted for the first time on a permanent basis with respect to those users who use the Panama Canal. That booking system was instituted in April of this year and provided that upon the discretion of certain shipping companies, they could book in advance for passage through the Panama Canal.

The interesting observation that came forth as a result of the first 3 months of experience of that booking system is that there is a certain number of shippers who desire to use that booking system so they could be sure of transit through the Panama Canal at a time when their ships arrived at that location.

The further interesting observation was that during this period, there was really no congestion of ships through the Panama Canal. For example, last year we had a great deal of congestion and there were as many as 100 ships waiting to transit the canal. They might have had to wait 2 or 3 days. In the last several months, there has been no congestion, but even though the fact we have had no congestion, some of the users have elected voluntarily to pay the booking system so that they could be guaranteed passage through the Panama Canal at a time when their ships arrived.

Now I am not suggesting that the Panama Canal certainly can be compared with what we are talking about on our inland waterways system. But I think it does represent an interesting reaction we have had to the installation of a fee, toll, for guaranteeing passage through the canal system.

I think, Mr. Chairman, that concludes responses to the questions that you have submitted. There is a little bit more on the congestion fee. We will submit that to you in writing so you will have that fully for the record.

[The information to be furnished follows:]

Question. Why is authority to levy congestion fees considered necessary, and where are such fees likely to be levied?

Answer. Congestion fees can make big improvements in the efficiency of waterways with large delays at certain facilities. The value of these kinds of charges is widely recognized when the demand for a service exceeds short run capacity. Consequently we have peak load pricing for electricity here in Washington and in many other areas of the country. We are all aware of differential long distance charges to encourage off peak use of the fixed capacity of the Nation's telephone system. We want to have the authority to manage our waterways in the most efficient manner and we have evidence that congestion fees may be a very useful means toward that end. The only place that a congestion fee might be levied at this time would L&D-26. Delays there average 12-15 hours per tow and go up to as much as 40 hours per tow in the fall during the peak grain shipment period. Right now delays at 26 are only about 5 hours per tow. A congestion fee in the fall could help smooth out traffic by encouraging some shippers to defer their movements to other times of the year. This would result in an overall reduction in the resource costs used to ship goods on the Mississippi and an efficienty gain to the national economy.

Mr. GIANELLI. Either General Wall, or Dr. Dickey, or myself will now be available for any questions. Your bill includes the authorization of several corps projects. If you desire information with respect to the status of those projects, or detailed information for them, I am sure General Wall will be able to respond. If you have any questions with respect to the economics of what we are proposing here on user fees, Dr. Dickey will be able to help in those responses. So we are now all three available for your questions, Mr. Chairman.

Senator ABDNOR. Thank you, Mr. Secretary. You certainly have us off of dead center.

Could you give the subcommittee an example of the inland system not responding to changes in private industry circumstances? I believe you mentioned that several times in your statement.

Mr. DICKEY. Yes, sir; I would be pleased to answer that, Mr. Chairman.

I think the fact that we see the long delay in getting new projects authorized is certainly one evidence of that. That is an example in the area of structural change. But I also believe in the area of overall management and nonstructural management of the waterways we haven't seen the kind of proper incentive generated to more efficiently manage the existing system that we have.

The reason we don't have those incentives is, of course, that there is no pricing mechanism, that there is not the kind of penalty which we normally encounter in the private sector at work here sending signals to the Government as to when it is appropriate to undertake certain management actions.

I think if we had cost recovery, if we had efficiency promoting mechanisms, such as congestion fees, we would find the management of the waterways to be much more responsive to the demands of the industry.

Senator ABDNOR. Would you say then maybe there are some segments of the system that are not properly managed? Would you go that far?

Mr. DICKEY. Yes; managed in the sense of not reflecting the true economics of waterway transportation in the choices provided to the users of the waterway.

The clear example is, where we have congested locks. For instance, the corps studies of the Bonneville lock show there are enormous efficiency benefits to be obtained through management devices such as congestion fees. We find congestion fees being used increasingly in public corporations such as the utilities, the pricing of electricity. We find it used by the telephone company. We find it in the subway pricing and so forth. These kinds of management techniques, as far as I am concerned, should also be used in the management of our inland waterways.

Senator ABDNOR. Do you think some of the systems should be operating or should they be closed?

Mr. DICKEY. No; it is not a question of operating or not operating the system. It is a question of how one operates it, and particularly systems which are crowded.

Senator ABDNOR. When you arrived at the computation of 4.7 cents, was that in the study of the Department of Transportation?

Mr. DICKEY. Mr. Chairman, no, sir. That is just a straightforward calculation of taking the 1.1 mills per ton-mile and multiplying that against the number of miles it takes to go from one particular point to another particular point. If you make that calculation, it turns out to be 4.7 cents in the case of wheat I believe it was. So that is just a simple arithmetic calculation.

Now the complex problem is how much of that added charge would be passed on to the farmer, whether it is going to be the whole 4.7 cents or something less. We haven't addressed that. We are just saying that if barge operators pass on the entire amount of the fee, the maximum amount that could be passed on to the farmer would be that amount.

Senator ABDNOR. I was just trying to recall some of the presentations we had a year ago. Maybe I am basing it on a different formula.

Mr. DICKEY. Yes, Mr. Chairman. Remember last year we were proposing 100-percent recovery.

Senator ABDNOR. I think some of them were suggesting it could cost 22, 25 cents a bushel. I guess the accuracy of the computation is one of the main things I want to make sure of.

Of course, if the entire cost was passed on to the product, it shouldn't have that much of an effect on the barge industry, should it?

Mr. **Dickey**. That is right. It would have no effect. But we don't expect that to be the case. We expect part of the burden to be borne by the barge industry. And certainly in the short run a very large part of the burden would be borne by the shippers as opposed to either consumers or producers.

Senator **Abdnor**. If that was brought about, in the next year, would you foresee any of the barge companies or some of them going out of business?

Mr. **Dickey**. That is quite possible. I certainly don't have any specific information, but it is certainly quite possible. I think those kinds of conclusions were suggested by the section 205 study. I have no reason to think that isn't appropriate. In fact, my own investigation suggests that to be the case.

Senator **Abdnor**. Thank you, Dr. Dickey. We may have additional questions for you in the future, but for the moment you gave us a point to start from. We appreciate it.

I do have a couple other questions. Mr. Secretary, other than barge operators, are there other identifiable beneficiary groups which could be assessed charges.

Mr. **Gianelli**. Yes; as I indicated in my statement, Mr. Chairman, some of the inland systems, for example, are used very extensively by hydroelectric-power users. In those cases there would be a substantial allocation of cost to hydropower that was developed, for example, in connection with some of those facilities.

To the extent you allocated the cost for other purposes, that would, of course, decrease the amount that would have to be allocated to commercial navigation and thereby be reflected in the user fee that would have to be collected from the inland waterway system.

Senator **Abdnor**. Just going to the navigation benefits, is there anyone else?

Mr. **Gianelli**. It might be possible under certain situations there would be some recreation or perhaps even under some extreme situations some national defense, although we are not certain of those.

Mr. **Dickey**. Could I say something there, Mr. Chairman, in regard to that?

Senator **Abdnor**. Yes, please.

Mr. **Dickey**. We do recognize in the case of situations where a facility is congested that all of the users should be charged. That is why we asked for the authority to impose congestion fees on all users of congested facilities, including recreational boats. At a time when there is heavy commercial demand for the crowded lock, it is perfectly appropriate to divert the recreation users from that commercial facility.

Senator **Abdnor**. What would be your view, Mr. Secretary, on limiting the future Federal financial commitment to the inland system to no more than the level of the recent past?

Mr. **Gianelli**. Excuse me?

Senator **Abdnor**. What would be your view of limiting the future Federal financial commitment to the inland system to no more than the level of the recent past?

Mr. **Gianelli**. Of course, that might be one approach, Mr. Chairman, but I am not certain that would take care of all the problems the inland waterway system has. For example, not only does it perhaps need new facilities, but as I indicated, some of the old facilities are badly needing replacement. Whether or not past recent expenditures would be adequate for those purposes, there might be some doubt.

Senator **Abdnor**. The last question I want to ask is what is the earliest date on which the actual construction could begin on the Bonneville lock and the Gallipolis lock?

Mr. **Gianelli**. General Wall will respond to that.

General **Wall**. First of all, it would have to be authorized and then, after that, I think we could start construction after 2 years of AE&D.

Senator **Abdnor**. When?

General **Wall**. Within 2 years after it is authorized and appropriated.

Senator **Abdnor**. Fast tracking here would help step up the situation.

How about the Monongahela locks and dam 7 and 8 and the William Oliver lock?

General **Wall**. That is essentially the same. But lock and dam 7 and 8, we don't have a chief's report out yet on those. There are still field reports. We look to have those in to us about February 1984, both of them. After that time, it is going to be about half a year to three-quarters of a year to get them through the system, the board, chief's report, and so forth, and up to the Secretary's office.

Mr. **Gianelli**. Mr. Chairman, I would like to respond further. I would hope that the committee would carefully consider the proposal which we have included or the administration has included for fast tracking. It seems to me one of the problems is the long time it takes from going to planning to the time you get to the construction. We think we have developed a formula here which would expedite that process and still give the Congress very ample time for its input with respect to what is done. But we really would believe that that is an important part of the administration proposal, the matter of fast tracking so that we can get these things underway as rapidly as possible.

Senator **Abdnor**. We found that the committee was very acceptable of fast tracking in the case of harbors 1 year ago. We didn't get too far on it once we brought the bill out. But something like that needs to be done if we really want to move on our projects.

Senator, do you care to ask questions?

Senator **Randolph**. Thank you very much.

Mr. Secretary, we understand, but sometimes it is difficult for our constituency to understand why there is the deterioration of the locks and dam system. For the moment, forget Gallipolis and we will move to the Monongahela River.

I recall that a number of months ago, which I will not document at the moment, we had a hearing in which it was indicated that because of cutbacks under employment proposals and actions within the administration, including the Congress, there was not enough money for personnel, we will say, in this instance the Monongahela River, to do the job.

I pointed out at that time that a cutback of a certain percentage across the board was a damaging one to the Monongahela River. And why? Simply because, and this is documented, when you laid off or there ceased to be employment for experienced personnel, that caused problems since they were the only people who knew how to operate those antiquated locks. So when they left the job, it was a cutback, surely, but the efficiency of the lock and dam system on the Monongahela suffered.

I don't know whether you, or the General, or someone would comment. Am I overstating the case?

Mr. GIANELLI. Let me try and then maybe General Wall might want to add something in addition.

Last year, Senator, the administration proposed a $150 million reduction in the operation and maintenance cost. The Congress didn't see fit to go along with that. That was put back in. I recall some of the discussion we had at the time of the hearings zeroed in on that specific proposal. We have not proposed that this time.

But let me go on to address the other problem. That is the rehabilitation of the system. I think that is one of the reasons we feel it is very necessary to establish some new mechanism to finance the work that is going to be required not only with respect to new installations but, as you well pointed out, the rehabilitation of some of the infrastructure which has deteriorated after its long service life.

I think the administration feels that the large capital outlay requirements that are going to be necessary as a result of rehabilitation of the system have to go along with some effort here with respect to cost recovery and new methods of financing. That is one of the reasons I think the administration has made the proposal that is currently before the committee today, to hope to overcome that problem of the large capital outlays which are going to be necessary to rehabilitate the system.

Senator RANDOLPH. Thank you, Mr. Secretary. I am not a carping critic, but it just seemed to me that when you remove a man from an operative function on the Monongahela with no replacement, when he was gone, the modus operandi stopped. I know this. I know it. I have looked into it. And I commend the administration for withdrawal of its position. Is that what it did?

Mr. GIANELLI. Yes, sir.

Senator RANDOLPH. I think that is very real, and may be so in many other sections of the country.

What about the serious delays? Are they in the administration? Are they in the civilian functions of the Army? Are they in the Congress? Where do you lay the blame?

Mr. GIANELLI. I think the primary problem we have had with respect to all water resource development, Senator, is it has not been viewed as the same priority as perhaps other projects. As a result, funds have not been provided to carry out the necessary work under the historic system.

I think what we have been trying to do, and certainly what I have been trying to do since I have been on the Washington scene the last 2 years is to try and work with the Congress certainly on new methods particularly of financing these projects.

In my judgment, the big problem is financing. That is the hurdle we have to get over before we can carry out not only improvements to the inland waterway system but the deep water ports as well and other water resource development. It just seems to me we have to move in an area where we can generate a new ability to finance so it does not have to compete with the other programs which are taking such a major amount of the budget, particularly with the current budget deficit.

Senator **Randolph**. Do you think, Mr. Secretary, we might receive some loans from banks, financial institutions in this country, and lessen perhaps their loans to countries overseas?

Mr. **Gianelli**. I can't comment on loans overseas. But I think part of what we envision, Senator, is bringing into the system a financing by the country's financial institutions, because it seems to me they have to help us get out of this problem. I think they have an ability to do that. The financial institutions of this country have been very ingenious in terms of many kinds of projects. It seems to me they now have to address for example water projects and help us figure out ways to finance these systems so they are not such a burden on the Federal treasury and we can recover some of the costs from the beneficiaries of the various kinds of projects.

Senator **Randolph**. I think that is a very constructive statement. We are not always the committee of jurisdiction in matters of this kind, but somehow or other we have to cut through whatever you want to call it, the maze of misunderstanding sometimes or jurisdictions or responsibilities. We have to cut through them if we are to keep intact and hopefully improve the network of transportation in this country, which includes the waterways, inland waterways, as well as the highways and the bridges of this country. Do you agree?

Mr. **Gianelli**. Senator, I couldn't agree with you more. I certainly do.

Senator **Randolph**. Thank you very much.

Senator **Abdnor**. Thank you, Mr. Secretary, General Wall, Dr. Dickey. We appreciate your time to day. I am sure we will be calling on you again.

Mr. **Gianelli**. Thank you.

Senator **Abdnor**. Our next witness is Donald Bryan, deputy secretary for the Pennsylvania Department of Transportation.

Mr. Bryan, we are happy to have you with us today. I looked at the testimony you have here. I see you are well fortified apparently with figures and facts. Obviously, if you were to give us the entire presentation we would be here for quite some time. I will have to ask you to summarize it and cover it the best you can.

You go right ahead and introduce your colleague, if you want to.

Senator **Randolph**. I wonder if I could be recognized just for a second.

Senator **Abdnor**. Will the room please be in order? It is hard for us to hear. If you are leaving, leave quietly.

Yes, Senator.

Senator **Randolph**. Mr. Chairman, I am grateful you would allow me not necessarily to introduce the witnesses, I would not do that, but the testimony which is to be presented at this time comes from the representative or representatives of DINAMO. I think what will be presented will be very helpful to the subcommittee. I do know this organization well. It is a regional coalition of shippers, of transportation companies, of labor, of units of government, and all of them are interested in the modernization of the Ohio River navigation system, which I have focused attention on this morning. I think it is a unique group. I commend them publicly for their efforts.

Thank you, Mr. Chairman.

Senator **Abdnor**. Thank you, Senator Randolph. I appreciate that background. I am sure that we are going to have some very fine testimony.

Just go right ahead, Mr. Bryan, any way you care to carry on.

STATEMENT OF DONALD BRYAN, DEPUTY SECRETARY, PENNSYLVANIA DEPARTMENT OF TRANSPORTATION, ACCOMPANIED BY BARRY PALMER, EXECUTIVE DIRECTOR, DINAMO/OVIA

Mr. **Bryan**. Thank you, Mr. Chairman, Senator Randolph. I have with me this morning Dr. Barry Palmer, who is executive director of DINAMO/OVIA, and he has, if we may, Mr. Chairman, a few brief remarks, and then I will summarize the secretary's remarks.

Senator **Abdnor**. All right.

Dr. **Palmer**. DINAMO/OVIA is a combination of two organizations. We are now the Association for the Development of Interstate Navigability in America's Ohio Valley. We have combined this newer organization, DINAMO, which is a couple years old which has brought the Governors of four States, the labor community, and the business community and the region together with the Ohio Valley Improvement Association, which has been in business, or had been in business for 88 years and had worked very closely with people in modernizing and canalizing the Ohio River navigation system. So we are now united in the Ohio Valley, all of us, in wanting to modernize the lock and dam infrastructure.

Senator **Randolph**. May I interrupt? I have several appointments that are overlapping. Would you focus on the Gallipolis situation? Would you be able to do that at the beginning and then move into other areas of your presentation?

Dr. **Palmer**. Sure.

Senator **Randolph**. Would that be all right, Mr. Chairman?

Senator **Abdnor**. Fine.

Dr. **Palmer**. We were just going to say Gallipolis Locks and Dam, replacement of the locks and the rehabilitation of the dam are our highest priority. If you could think in a capsule, very briefly, in the time we have, the concern is that if Gallipolis is not modernized, for example, by 1990, that some 15 million tons of traffic are going to be denied access to that facility. And those jobs and the commerce in this region are going to be impeded because of inability to modernize that facility.

Additionally, we strongly urge replacement of the deteriorated facilities at locks and dam 7 and 8 on the Monongahela and the

Winfield lock and dam on the Kanawha River. They are considered in most urgent need of replacement within our organization. There is legislation in both Houses of Congress that would authorize construction of these sites. We are here today to express our concern that all of these critically deficient inland navigation projects are included in the Congress final authorization package.

Don, why don't you present the testimony now.

Senator **RANDOLPH**. In other words, you call attention to the Ohio, the Kanawha and the Monongahela.

Dr. **PALMER**. That is right.

Senator **RANDOLPH**. All are within or a part of the structure of West Virginia; is that right?

Mr. **BRYAN**. That is right. We feel these certainly in our region are the most important and the highest priority projects.

Senator **RANDOLPH**. Thank you very much.

Mr. **BRYAN**. Mr. Chairman, as you have already indicated, we made substantial submissions here, written testimony, some fact sheets, some studies on coal movements, on steel movements, on chemical movements, and a technical study on the need for the rehabilitation of 7 and 8. I will not attempt to cover that. Rather, I will present a summary of that material which Secretary Larson was to have presented here himself this morning.

We appreciate the opportunity today to present our views on congressional authorization of critically important inland navigation projects included in S. 947 and S. 1171. As Secretary of the Pennsylvania Department of Transportation, I represent one of the States which will be directly affected by the final authorization bill which evolves from this subcommittee. As a member of the Executive Committee of DINAMO/OVIA, I represent just one facet of the broad range of business, labor and State governments from throughout the Ohio Valley urging expeditious modernization of our inland navigational infrastructure.

S. 1171 was introduced by Senators John Heinz and Wendell Ford and is currently cosponsored by 19 of your Senate colleagues, from both parties and from throughout the nation.

Senator **RANDOLPH**. I interrupt to say I am a cosponsor. I want the record to show that.

Mr. **BRYAN**. Yes, sir. We are aware of that and appreciate your support in that regard.

This legislation would authorize five inland navigation projects in addition to those included in S. 947. That bill would authorize only the Ohio River's Gallipolis Locks and Dam and the Columbia River's Bonneville Lock.

The additional projects in S. 1171 are: Gray's Landing and Point Marion projects, which would replace obsolete navigation facilities at Locks and Dam 7 and 8 on the Monongahela River, Pennsylvania; Winfield Lock, Kanawha River, West Virginia; An auxiliary chamber at replacement Lock Number 26, Upper Mississippi River, Illinois; and Oliver Lock, Black Warrior River, Alabama.

DINAMO/OVIA's primary interest in both bills is, of course, on those projects within our region of responsibility—Gallipolis, Gray's Landing, Point Marion, and Winfield.

As Senator Heinz pointed out when introducing his bill, S. 947 recognizes the crucial importance of Gallipolis to commerce and jobs in 19 States. DINAMO/OVIA commends the author of S. 947, Senator James Abdnor, and the authors of S. 1171 for including this urgently needed improvement project in both bills.

However, because our inland waterways have been neglected for 7 long years—

Which I believe has already been emphasized this morning—

and because the Federal commitment to building and maintaining our inland system has been declining in real terms, DINAMO/OVIA concurs with Senator Heinz and his 20 colleagues that unless the additional projects in S. 1171 are included in the subcommittee's final authorization package, the Ohio Valley will find itself accelerating toward serious, even disastrous, economic consequences.

I need not quote for you today the many statistics you already know about river transportation of bulk cargo such as steel, coal, chemicals, and grain. We all know river tonnage is projected to increase greatly in the years ahead. We all know that river transport is the most cost-effective method of bulk cargo movement available. We all know that navigable waterways are the foundation of the industrial corridor that extends from Pittsburgh to St. Louis and beyond.

And we all know that deteriorating and obsolete locks and dams are causing increasingly costly delays that are seriously jeopardizing the continued viability of our region.

We all know these facts; yet Congress has not authorized a single navigation improvement or replacement project in the Ohio Valley since 1964.

I will quote for you one statistic that I find frightening.

"According to a study commissioned by DINAMO/OVIA, if nothing is done to remedy the situation at; for example, the Gray's Landing and Point Marion facility in a reasonable amount of time, 15,200 jobs directly and indirectly dependent upon the Monongahela River could be lost by the year 2000; 19,800 jobs lost by the year 2040."

So we stress that. Between 15,000 and 20,000 jobs in the valley are at stake regarding these facilities.

These are jobs in Pennsylvania and West Virginia, two States hardest hit by the harshest recession in recent memory.

Continued costly delays on river traffic caused by inaction to modernize our deteriorated and obsolete locks and dams will seriously diminish any full economic recovery for our region.

It is also especially important that authorization and construction of these essential projects not be conditioned upon a lengthy and time-consuming resolution of the complex waterway user charges question. While DINAMO/OVIA is concerned about controlling all Federal expenditures, appropriate consideration of the user charge issue, if linked to project authorization, could delay construction so long that an irreversible withdrawal of capital from the Ohio Valley and other areas could occur, resulting in grave economic consequences such as those I have just described.

Again, DINAMO/OVIA appreciates the opportunity the subcommittee has given us to express our view that the direct impact of these deteriorated and obsolete locks and dams on commerce and jobs in our region can no longer be ignored. The studies have been completed. The evidence is there that replacing these structures is a matter of national urgency. The seven projects included in both S. 1171 and S. 947 must be included in the final authorization bill to be considered by Congress in this session, and such authorization should not be deferred pending resolution of the user charge issue.

Thank you.

Thank you for your attention.

Senator ABDNOR. Thank you, Mr. Bryan. We certainly appreciate both you and Dr. Palmer being with us today. We know you certainly represent a very important region of the country where water transportation is very important.

I have to ask you a very difficult question. I think you heard me when I pointed out we are talking about something like 4 billion dollars' worth of expenditure over the next few years, and our present system will bring in about $300 million during that same time, with our collection of gas tax.

The No. 1 problem facing this Nation is the $190 billion deficit that this Government is experiencing, I am just wondering how do you propose we resolve this problem? Because this is what we have to talk about today. I would like to hear from you people because you are an important part of this. Are you willing to support the collection of fees or closing down segments of waterways or increasing the gas tax? How would you say your group feels about this?

This is what we are trying to find out. Until we get off of dead center, we are not going anywhere.

Mr. **Bryan**. We can best respond I believe in this instance separately, if I can, for Pennsylvania and then for DINAMO/OVIA.

Let me say for Secretary Larson and for Pennsylvania that Pennsylvania supports the National Governors Conference position on user charges. That is that the users cannot realistically afford to pay more than 25-percent of the O&M costs associated with commercial navigation, and that such charges, if they are going to be collected, must be collected on a systemwide basis.

I believe what we heard this morning is the Army itself does propose it be systemwide charges now. So Pennsylvania would say if there must be charges, they should be crafted along those lines. We support NGA in that regard.

Dr. Palmer might speak specifically for DINAMO/OVIA.

Senator **Abdnor**. That is the 25 percent, is it not?

Mr. **Bryan**. No more than 25 percent of the O&M charges attributable to commercial navigation. And I must stress that that distinction be made.

Senator **Abdnor**. Then in other words, I can assume that Pennsylvania would support the administration's bill if it called for 25 percent instead of 70 percent.

Mr. **Bryan**. Yes.

Dr. **Palmer**. It appears, however, that the current tax, the tax that is currently being levied against the water towing industry, for example, when it reaches 10 percent in 1985, 10 cents per gallon on diesel fuel in 1985, is roughly equivalent to that 25 percent cost. So that is what we are really looking at.

Senator **Abdnor**. Do you know that is only for new construction, that isn't for maintenance?

Dr. **Palmer**. I understand that. Our concern is that we get these projects authorized and that this committee investigate. We have some money in the Inland Waterway Trust Fund at the current time. We ought to explore possibilities. We are only talking with Gallipolis for the first year, for example, less than $7 million. On locks and dam 7 and 8, it is something like $1 million a year. I don't know what the first year costs are on all of these projects.

Senator **Abdnor**. Our figures show a total cost of $362 million, and that is soon going to hit us.

Dr. **Palmer**. Some of those projects, Senator, I believe won't be completed until 1990, or even some of them beyond that.

Senator **Abdnor**. I mean it takes bucks. Everybody thinks their project is important, the Bonneville, yours, all of them down the river. We just can't say that one project is more important than another, we have to be looking at the whole picture.

I see Senator Randolph wants to say something.

Senator **Randolph**. It is only since I must go to these other appointments.

There is, Mr. Bryan and Mr. Palmer, an often-used phrase, that someone, some element of government, the President, the Congress, must bite the bullet. You hear that. Now let's say that is true. That means to come to grips with whatever that problem at the moment might be.

We haven't acted for 5 years, not since 1978, on the matter of user charges. Am I correct on that? I want to make sure.

Senator **Abdnor**. Yes.

Senator **Randolph**. That is 5 years. Well, we have to hold ourselves accountable. We have to face the situation and to say that it may be distasteful, that there is a difference of opinion, will not suffice. We have to come to the place where we have to have the vote up or down. That is what I advocate, Mr. Chairman. I believe you would advocate that, and also the members of our committee.

Senator **Abdnor**. Right.

Senator **Randolph**. If we do not do that, there will be another hearing next year, Mr. Bryan, Mr. Palmer, and another hearing. And you speak of obsolescence, so true upon the Monongahela.

I mentioned it or highlighted it today with the laying off of the people, the only people that can operate the deteriorating, obsolescent equipment on that river. So I don't want to cry about it, but I will say I will take a portion of the blame, although I have tried diligently in this effort to move forward. But I think that perhaps the only way we can really act is to have some high-level programing that will bring the administration, Mr. Chairman, and the two bodies of the Congress into a decision, not on the particulars of a project but on the policy of the United States of America in reference to action.

Last year we had to resort to something that was different in a sense. We had had no increase in the Federal gas tax, how long had it been? 1959 was the last increase until this past year, at the time we passed the nickel tax. For a period of let's say over 20 years nothing had been done. Even as we recall, it was a bitter debate about the 5-cent tax, as you can understand. I think realistically the Congress acted in the best interest of the American people and of the Nation's network that moves these important products to the consuming public and also provides for transportation of workers. Whether we could include vacation and the movement of families, it is the movement of America that was being jeopardized. We had to do something. We did do something. Not enough.

So, Mr. Chairman, I recognize that you as chairman of the subcommittee are not only a member of the full committee but a member of this particular group. And yet I feel that perhaps you and others of us within the committee have the responsibility to try to do what we have not yet done perhaps in a way that will bring this to a decision process that we make. I suggest and comment that this might be an opportunity as well as a responsibility for leadership here within this unit and committee of the Senate.

Senator **Abdnor**. Thank you, Senator. As usual, you have summarized it very well.

I want to say now, so that everyone knows, that we are serious about moving. We certainly can't come up with a proposal that is going to make everyone happy, but obviously we can't go on forever. We are finding people on other committees waiting for some action by this committee that aren't going to sit around and wait forever. So something has to be done, and I don't intend to have them point their fingers at this committee and say you never do anything.

Whatever we do, I am not suggesting it is going to be the popular thing, but something. So I want to get serious. We have been going back and forth and stalling and fighting off any proposition in the past, but we are coming to the place now where we are going to come up with some decisions. Whether the Congress will accept them I don't know. But as far as this committee is concerned, we will be coming up with some recommendations.

We have other questions, but we have to move. I have a long list here. Apparently I am the only one who is going to be here for a while this morning. So I have to move on with the other witnesses.

Just quickly, Mr. Bryan, did you hear General Wall tell us that they are doing a district study of planning locks 7 and 8 and that it will take another 2 years to get that and 3 years at least before the chief comes out with a report? Are you aware of that delay, the fact that Monongahela locks 7 and 8 are really not ready? We couldn't authorize before we receive these reports.

Mr. **Bryan**. Mr. Palmer can speak to that, Mr. Chairman.

Dr. **Palmer**. Locks 7 and 8 on the Monongahela River, those projects were authorized by the Secretary of the Army in 1973. I have the documentation from the Corps of Engineers office that indicates that to be the case. The rules had changed, of course, with the debate on lock 26 and then authorization had to be withdrawn.

They have studied this lock, locks and dam 7 and 8, throughout the years, over a 20-year period of time. We wanted to be sure ourselves that these projects were economically viable. We used the Corps of Engineers formula. So we studied it ourselves and found what you have in the record, that these are economically viable projects.

Senator **Abdnor**. I appreciate that. But are you telling us, I just need to know, are you saying what the corps presently is doing is not necessary, that we can just forget about what they are doing?

Dr. **Palmer**. The rules are they have to study these projects. The Gallipolis lock and dam has been studied for almost 20 years, sir, and it is still not authorized for replacement. There isn't anybody who doesn't agree the thing has to be replaced.

I am not critizing the procedures and so forth. They are necessary, probably. That is the way our system works in this country. They are completing their studies on 7 and 8 and they will have another report in 1984, I believe, next year, February, to be submitted to the Chief of Engineers and then to this committee.

But I submit to you that the economic viability of this and feasibility of this has been tested over a long period of time, and that probably will be the case.

Senator **Abdnor**. The economic feasibility, how do we know what it is going to be until we get the report finished, or do you have the reports?

Dr. **Palmer**. I don't have the corps reports. We looked at cost-benefit formulas.

Senator **Abdnor**. We can have every person in the United States do this and just totally ignore what we think we have, and what would that be like? We would have projects coming in here from all over the United States that we could throw at the corps and tell them to start building. I don't know if they would be able to handle that. Anyway, I appreciate that.

Dr. **Palmer**. There is support, I think, and hopefully some more support will be coming on these seven projects. We are not looking at a myriad of projects. We are saying let's get the seven most critical projects across the Nation, get together and build the political support, and get them authorized and provide the foundation for growth and prosperity at least in our region. That is why four of these seven are pretty important.

Senator **Abdnor**. Thank you. I am sure they are.

Dr. **Palmer**. Thank you, sir.

Senator **Abdnor**. I realize we have a lot of backlog to take care of.

Thank you both for coming.

Do you have a prepared statement from which you were reading for the committee?

Mr. **Bryan**. Yes, sir, we submitted the oral statement as well as our written testimony.

Senator **Abdnor**. All right. Thank you.

I understand Senator Boschwitz is here. We are happy to have you here this morning. You have this timed very well. Senator, we have been anxiously awaiting your testimony.

STATEMENT OF HON. RUDY BOSCHWITZ, U.S. SENATOR FROM THE STATE OF MINNESOTA

Senator **Boschwitz**. Mr. Chairman, good morning. I thank you very much for giving me this opportunity to testify.

I know some of the problems regarding the legislation that I have introduced. I hope those problems will be ameliorated so that we can get on with the business of helping the Upper Middle West where we both hail from.

Mr. Chairman, I appreciate the opportunity to testify with respect to S. 947, the omnibus water resources bill. I congratulate my friend, the Senator from South Dakota, for his leadership in trying to resolve the many difficult issues related to our Nation's water resources. That is no easy job, to be sure.

Mr. Chairman, I also have a more detailed statement that outlines the history of the Upper Mississippi River system, the components of my legislation and an explanation of its need. I request that it be printed in the hearing record, along with other statements and letters of support.

Senator **Abdnor**. Without objection, it will be made a part of the record.

Senator **Boschwitz**. Mr. Chairman, back on February 3, I introduced S. 449, the Upper Mississippi River Management Act of 1983. It is cosponsored by nine of my colleagues. This legislation, which follows closely the recommendations of the Upper Mississippi River Basin Commission, contains authorization for environmental, recreational, and navigational improvements on the Upper Mississippi River.

Mr. Chairman, the people of the Upper Midwest, in both our States, have long recognized the value of the Mississippi River system. They recognize its value for carrying goods downriver for shipment to foreign ports. They recognize its value as a home for a large variety of fish and wildlife and as a vital flyway to 75 percent of the Nation's migrating waterfowl. They also recognize its value for recreational fun, which is particularly the use in Minnesota, in addition to the bringing of the goods downriver. This legislation recognizes these multipurpose uses of the river and authorizes programs to manage it as such.

A major part of this bill is the authorization of a second chamber at locks and dam 26. This is very important because the Mississippi River provides a vital link to the commercial waterway system.

Located near Alton, Ill., locks and dam 26 is strategically positioned just 15 miles south of confluence of the Mississippi and Illinois Rivers. Together those two rivers have sent about 70 million tons of cargo annually through locks and dam 26. Unfortunately, the practical capacity of No. 26 is 65 million tons.

A new lock that was authorized by Congress in 1978 will increase this capacity to 85 million tons. However, that will not solve the long-term problem. Current projections show the river capacity will exceed that level within a 10-year period.

The importance of this to the future of Minnesota's agricultural exports cannot be overstated. Not only Minnesota, but Illinois, Iowa, Wisconsin, your own State, Mr. Chairman, to some degree, and Upper Middle West States, as well.

In recent years Minnesota's agricultural exports, based on our percentage of national farm output, has jumped dramatically and currently Minnesota farmers, and other Midwestern farmers, are shouldering the burden of millions of dollars of excessive costs when traffic is held up by the bottleneck at locks and dam 26, because eventually all of those costs revert back to the farmer; 2-day delays are not unusual, and with transportation costs determined by the hour, this means money.

The Upper Mississippi River system is unique as it is the only inland river in the United States that is both a Federal commercial navigation project and a major national wildlife refuge.

The wildlife refuge spans 560 miles, from Wabasha, Minn. to St. Louis. Along the banks of this refuge are 290,000 acres of wooded islands, waters, and marshes all largely untouched.

As I stated before, this area is also a vital "flyway" to 75 percent of the Nation's migrating waterfowl. It is also the home of 270 species of birds, 50 species of mammals and many fish, reptiles and amphibians as well.

Unfortunately, the backwater areas which are the invaluable breeding areas are slowly being destroyed by sediment deposits. The natural process of heavy rains, spring runoff, and snow melts wash sediment from fields into streams and tributaries. At the same time, deteriorating river banks create more sediment. Eventually the sediment is deposited on the inside of river bends and the backwater areas. In fact, since 1939, sediment has changed 25 percent of the open backwater areas to marshland.

We cannot allow this valuable resource to continue to deteriorate unchecked. That is why this bill also contains authorization for a habitat rehabilitation and enhancement program. This program will help to protect and rehabilitate those habitats that would be otherwise lost because of the continuing deterioration of the river.

The master plan and subsequently this legislation recognizes the importance of recreation along the river. A program of recreational projects is authorized as well as an assessment of the economic benefits generated by recreational activities on the Upper Mississippi River system.

Mr. Chairman, the Mississippi River is important to Minnesotans and others in the Upper Midwest because its use for commercial navigation means jobs, its use as a home for fish and wildlife means environmental quality, and it also is a place of recreational enjoyment. It is a resource of multiple uses and must be managed as such.

The legislation I have introduced balances these multiple uses. I can say as its author that this bill does not completely satisfy any of the competing interests, but it does indeed balance those interests as a true compromise must.

Mr. Chairman, I hope that this bill will receive quick consideration. The Upper Mississippi really is an important national treasure. It is absolutely remarkable that we should have such rich farmland and that that farmland should be bisected by a great river system and from that river system we are able to bring our goods to market.

Besides that, this river system is so extraordinary that it provides for many other things I mentioned in my testimony as well. It is important that multi-used management of that river system be considered and rapidly authorized. It would be my hope, Mr. Chairman, that you will help make that happen. I will do whatever I can to bring that about as well.

Senator ABDNOR. Thank you, Senator, for your very concise and meaningful statement.

Before you came in today, I pointed out that over the next fiscal 5 years, if we did everything we should, we would be spending something like $4.5 billion. We would collect, with the present system of gas taxes, about $300 million over the next 5 years.

Now I need not tell you what we are up against. You are part of the Budget Committee and you know what the deficit means to this country. So we are talking about how do we finance these.

Today Secretary Gianelli gave us the first basis to go on. I am not saying we are going to adopt it in any way, but this committee is going to move on something in cost-sharing, some way or the other, so we can get projects that are necessary moving.

In his proposal today, he was talking about 1.1 mills per ton mile. He had figured out for me that on a bushel of wheat from South Dakota going down the river it would cost something like 4.7 cents per bushel. I think I am correct on that.

I am just wondering, how does that strike you? That would be 70 percent of the cost of operation and maintenance and construction and so forth. Does that sound like an excessively high fee attached to a bushel of wheat for additional transportation?

Senator BOSCHWITZ. What is the 1.1? Would you repeat the figures?

Senator ABDNOR. 1.1 mills per ton-mile up and down the river. That would be 70 percent. Someone has computed this out.

Senator BOSCHWITZ. A tenth of a cent a mile?

Senator ABDNOR. Yes.

Senator BOSCHWITZ. A tenth of a cent a mile. So about $1.80 a ton?

Senator ABDNOR. Yes.

Senator BOSCHWITZ. And there are somewhat less than 40 bushels to the ton?

Senator ABDNOR. Let's say they were right on their figuring.

Senator BOSCHWITZ. 4½ cents.

Senator ABDNOR. 4.7 I wrote down here.

Senator BOSCHWITZ. That would cover the entirety of the cost?

Senator ABDNOR. Seventy percent of the cost of the projects needed over the next 5 years, and O&M, too, construction and maintenance.

I wish you would think about that. I don't expect you to give me an answer in a hurry here.

Senator BOSCHWITZ. Would you be kind enough, Mr. Chairman, to tell me again the outlays that are required in the next 5 years? Is it $4.5 billion?

Senator ABDNOR. Roughly. It would be around $4.5 billion. That would be maintenance and all ongoing construction, for the maintenance and all the new projects that are proposed that would be ready to go.

Senator BOSCHWITZ. And the present revenue is, did you say, $300 million?

Senator ABDNOR. Over this same period, under the present form, it would bring in about $300 million. Again, these are all rough figures.

Senator BOSCHWITZ. Leaving a margin of $4.3 billion; is that correct?

Senator ABDNOR. Yes. What I would like to do is have you pick up a copy of the proposal or the statement of Mr. Gianelli and maybe look at it. I have great respect for your judgment. I know you know what we are up against, being part of the Budget Committee. I wouldn't expect that now. Maybe you could give us your views on that at a later time, if you would.

Senator BOSCHWITZ. I would. The Corps of Engineers operates slowly and inefficiently, in my opinion. What has to be taken into account is you are making folks pay for gross inefficiency. So that is going to factor into whatever I put forward.

Senator ABDNOR. Fine.

Senator BOSCHWITZ. We just were talking with the corps about a flood-control project that we want to get started in Rochester, Minn. It is now approaching its quarter of a century mark of consideration. I must say that I don't have a warm spot in my heart for the way those folks operate. Frankly, if it were done privately or in some other way, we probably could have it done more efficiently and there wouldn't be a need for 4.7 cents.

We are sensitive in Minnesota, and I am sure you are in South Dakota as well, that we are at the end of all the transportation lines. We are the furthest from the ports. Therefore, when Dave Stockman came and spoke to me about this, I opposed the increase in those types of user fees. I said that that would just be the first step. They are too easy to raise. The result is I have opposed those quite consistently.

I would like to look a little more carefully at what the Corps of Engineers decides is going to be the cost of these projects, and I hope that you, Mr. Chairman, will look at the Corps of Engineers, because if all branches of the Government operated as slowly as they do, we would be in terrible shape.

Senator **Abdnor**. Let me ask you, what would you think of forming a public corporation to run public waterways? Do you think it could be done?

Senator **Boschwitz**. What does that mean, Mr. Chairman? I must tell you I have not considered that concept.

Senator **Abdnor**. Well, somebody has to head this waterway system up, whether it is going to be the corps or somebody else. Do you think it could be efficiently run by forming some other kind of public corporation? I don't think private would do it, but public, like an Amtrak. That is a good example. Do you think something like that would be good?

Senator **Boschwitz**. Amtrak has been relatively successful. Mr. Chairman, I have not heard of or thought of that before. I think it would be very worthwhile considering because of the difficulties that I have mentioned earlier.

Senator **Abdnor**. Good. I would like to go into this further with you, but I have a lot of witnesses.

Senator **Boschwitz**. Fine. We will chat about it as we go along. We see a lot of one another. Thank you very much, Mr. Chairman.

Senator **Abdnor**. Thank you very much, Senator. We appreciate your input.

Our next witness is William Dempsey, president of the Association of American Railroads.

Mr. Dempsey, I think you have the message. So far I am not moving too quickly. The hours are running out. I assure you your whole statement will be made a part of the record.

I hate to put the pressure on you.

STATEMENT OF WILLIAM H. DEMPSEY, PRESIDENT, ASSOCIATION OF AMERICAN RAILROADS

Mr. **Dempsey**. That is no problem. I hadn't intended to take more than a few minutes anyway, Mr. Chairman. Thank you very much.

The position of the rail industry on this user charge issue is well known to this committee and to the Congress. I don't want to duplicate in any way what Mr. Gianelli said. I will simply say we support the administration's bill. I agreed with everything that he said this morning.

Our position, of course, is rooted in self-interest. The subsidy to the motor carrier industry, the barge industry, over these decades has done a lot to contribute to the deterioration of the rail system. This Congress has been struggling now for some 10 years, ever since the collapse of the Penn Central, perhaps the greatest industrial catastrophe in the history of the United States, with the problems of the railroads. You are familiar with them in your part of the country by virtue of the Milwaukee Roads bankruptcy, and that did impact on the States. Rock Island, of course, was simply wiped out.

The subsidy on the motor carrier side of it, as Senator Randolph mentioned, has not been eliminated but alleviated by virtue of the action that this Congress took just last year.

I think it is interesting to note that according to the Department of Transportation figures, the motor carrier/heavy truck user charge, when it is in place, will capture about 70 percent of the cost properly allocated to heavy trucks. It is simply a coincidence, of course, that the proposal before you now regarding inland waterway commerical navigation is for 70 percent recovery. We are sorry to see the administration retreat from the 100-percent target, although I understand it is still a target. But I would hope that the Congress would do no less in the case of the barges than it did in the case of the motor carrier industry.

The subsidy is truly huge, according to Congressional Budget Office figures. Prior to the imposition of the modest user tax now in place, the Federal taxpayers contributed about 40 cents for every dollar that the shippers contributed. A comparable subsidy to the rail industry would put us in a range of a Federal subsidy of say $13 or $14 billion a year. It is very difficult to compete in those circumstances.

Now, beyond all of that, there are other broad public policy considerations that Mr. Gianelli identified: the misallocation of transportation resources, the shipment of goods over what is really the high-cost method instead of the low-cost method, the resulting impact in terms of inflation, the adverse impact in terms of those shippers that don't have access to a river, and the ultimate impact on the individual citizens both as taxpayers, by virtue of the subsidy, and as consumers, by virtue of the artificially inflated prices of the commodities transported by these subsidized modes of transportation.

Now I should say we don't take the view that no subsidy can ever be justified in public policy. That would be foolish. There are emergencies that occur that require Government assistance. It may be desirable for promoting an instant industry and for similar situations. But as a long-range element of a sound public transportation policy, we think that subsidies in the end ought to be eliminated.

I would just add one thing, and that is regarding the figures I think you mentioned. If I understood the last witness, correctly, he said that the fuel tax in place, when it reaches the full 10 cents, would result in a 25-percent cost recovery. We think that cannot possibly be right. And the figures that you gave would indicate that it could not be right.

At the present time, with the tax at 6 cents, in fiscal 1982, the return was $30 million. That is to be compared with total expenditures of over $650 million. We think it is quite clear that when the 10-cent tax is in place, the recovery will be less than 10 percent of Federal expenditures.

I think that is all that I have to say, Mr. Chairman. My statement is in the record. As I say, our position has been consistent over the years.

Senator **Abdnor**. Thank you, Mr. Dempsey. We appreciate that concise statement.

Let's say the Secretary's plan was in place tomorrow. What would that do to railroad rates?

Mr. **Dempsey**. It is obvious what it would do in general terms. What it would do in general terms would be to improve in a very significant way our competitive posture. Now whether that would mean that our income would go up by virtue of diverted traffic or our income would go up by correspondingly raising rates would, of course, depend upon what the bargelines did in terms of whether they would pass on all or part of the costs to the shippers. But the consequences in the end would be substantially the same. It would improve our economic condition.

Now I don't know if we have a precise figure. No, we don't. Our problem, Mr. Chairman, is to get to an adequate revenue level, and that is what the Congress said the Interstate Commerce Commission ought to do when it passed the Staggers Act. The Commission says that an adequate revenue level would be at least measure 16.5-percent rate of return. That is the current cost of capital. That figure may go down somewhat because of declining interest rates.

The best year we have had since 1944 was 1980, and we earned a 4.5-percent rate of return. So we have a long way to go. And without the elimination of subsidies to our competitors, I must say I don't see how we are going to get there. With the elimination of subsidies and with the help that we have been given by the Staggers Act to enable us to compete with our unregulated barge and motor carrier competitors—with all of that in place—I think this industry stands an excellent chance over time to become the vital and vibrant force that it was in the past.

Senator **Abdnor**. Let me ask you this. Maybe this is a foolish question, but have you had to lower your rates where you follow the rivers?

Mr. **Dempsey**. Oh, yes.

Senator **Abdnor**. And then charge extra in other areas to offset?

Mr. **Dempsey**. Yes, indeed. That is right. There are barge-compelled, as they say, rates. Depending on how close to the river we are, if we can make some money by carrying that traffic, that is if we can make something over our variable costs, why of course we will do that. But the result is that in order to try to earn an adequate rate of return, we are compelled to raise our rates, to the extent we can, in those communities where we don't face that competition and to those shippers who don't have access to the river.

In this situation the Federal Government is subsidizing the barge operation, but you can look at it in terms of the other people that are dependent upon the rail industry subsidizing those that are not dependent on the rail industry.

Senator **Abdnor**. Thank you.

You heard the exchange that Senator Boschwitz and I had on the question of a public corporation. Do you think that would have any merit?

Mr. **Dempsey**. I would like to reflect on that, Mr. Chairman. I had never thought of that before. It is an interesting idea. Let me consider it. If we have anything useful to say about it, we will be in touch with you.

Senator **Abdnor**. We thank you, Mr. Dempsey.

Mr. **Dempsey**. Thank you, Mr. Chairman.

Senator **Abdnor**. We appreciate your being here.

The next witnesses are all in the same area. I wonder if we can have them all come up. I am not trying to push anyone along any more than I have to, but we are all anxious to move along. We have Mr. Wilson and Mr. Cook and Mr. Farrell and Mr. Frederick. There are four of you. And then we have Mr. Barschdorf and Mr. Mueller.

I think you are all on the same subject. I am very interested in having you all testify. I am sorry about the time going on like this. I guess this is a very broad subject. It takes time.

Mr. Wilson, would you care to start out. You could maybe introduce your group so we have them all straight here. And summarize your statement, if you will. I assure you everyone's written statement will be made a part of the record.

STATEMENT OF RICHARD A. WILSON, PRESIDENT, AGRI-TRANS CORP., SUNSET HILLS, CALIF., ACCOMPANIED BY HARRY N. COOK, PRESIDENT, NATIONAL WATERWAYS CONFERENCE; JOSEPH A. FARRELL, PRESIDENT, AMERICAN WATERWAYS OPERATORS, INC.; AND ROBERT FREDERICK, LEGISLATIVE DIRECTOR, THE NATIONAL GRANGE

Mr. WILSON. Thank you, Mr. Chairman. I would take a brief second to introduce my associates, including Bill Mueller who is with the Fertilizer Institute. He will have a separate statement. To my right is Harry Cook, the executive director of the National Waterways Conference, and to my left is Joe Farrell, president of the American Waterways Operators. Milton Barschdorf is chairman of Inland Rivers, Ports and Terminals Association.

We appreciate the opportunity to be here today. We have submitted a statement for the record. We appreciate your acknowledging that. We have a brief introduction.

My name is Richard Wilson. I am president of Agri-Trans Corp. Agri-Trans Corp. is an agricultural cooperative owned by five midwestern cooperatives, one of which is Harvest State, formerly GTA Cooperative Services, with operations in your State. We are a barge line and we provide transportation of both fertilizer products and grain products for our member cooperatives.

The American Waterways Operators is the national trade association for the barge and towing industry, and the National Waterways Conference is a trade association representing a number of shippers and port authorities and other waterway interests, including carriers. The attachment as the last page of our statement reflects many of the associations that we have coordinated the statement with; for example, the National Council of Farmer Co-ops.

It will be my purpose today to briefly summarize our statement. I would like to move right ahead to the industry position to save time.

Senator ABDNOR. I would really appreciate it.

Mr. WILSON. We had extolled our virtues in part of the statement. We will forgo repeating that.

Senator ABDNOR. Let me assure you we appreciate it and your written statement will be looked at.

I just want you gentlemen to know that at least I am serious and I am sure I can speak for Senator Randolph and I think other members of the committee. They keep throwing it up in our face that this committee has not acted over the years and we can't wait for you. I partially agree. But we are going to move.

We have our problems. You have heard us set out the picture of the expenditures staring us in the face over the next 5 years, the amount of collections we can foresee from our present program, which we can argue on what the gentleman from Pennsylvania versus the gentleman from the railroads had to say, whether it is 25 percent or going to be 10 percent. We have problems no matter how you look at it. We have to come up with some answer. So we would like to hear from you as to how you feel about this and how you think we should carry on.

Mr. WILSON. We appreciate the opportunity.

With respect to the barge industry, or the waterway interests, let me reiterate the waterway interests position on this. As I say, it has been coordinated with a number of shipper groups. This is not a carrier discussion specifically.

We believe in fair cost-sharing. I want to reiterate that. We believe in fair cost-sharing of waterways expenditures.

Second, we believe there should be no increase in the present level of user taxes until such time as four prerequisites are satisfied. Those four prerequisites, which I will deal with at length later, are, first, that the public values of the waterways need to be acknowledged, identified, and given some credit in terms of the level of expenditure that the Federal Government should fund.

Senator ABDNOR. Elaborate on that.

Mr. WILSON. I will elaborate but permit me do recap other prerequisites first.

Second, we should have an accurate cost allocation means to determine navigation-specific costs, that portion of the overall waterways expenditure that is related to navigation expenditures.

The third element is we should have competitive equity. The first two points I mentioned have to do with water resource policy. This one has to do with transportation policy.

We have a complicating factor. The barge lines should not be singled out with respect to their subsidy compared to other transportation modes that are subsidized.

The fourth point is that if users are paying for the system, they certainly should have a large voice in saying what the system should be.

Let me deal with those in turn. First, the public value aspects.

The legislative history of every authorization project is replete with public benefits of projects other than just direct transportation benefits. They deal with national defense, the preparedness for emergencies, the economic development of regions. For example, the Arkansas River was an economic development project, as is the Tennessee-Tombigbee. The promotion of exports is another national goal that is advanced. Industrial development and, indeed, the competitive equity among the transportation modes are recorded in the legislative history as public values that the expenditures in the waterways have provided to the Nation. Certainly there should be some consideration of those. They are political judgments, but there has to be some sort of allocation, if you will, of the cost to the Federal Government with respect to those public values.

We think the administration perhaps is suggesting that allocation by going from 100 percent to 70 percent. We have heard 35 percent with respect to flood control. We wonder why they look at

60 to 70 percent for our mode and 35 percent with respect to flood control. But there seems to be some recognition of these public values. That prerequisite needs to be dealt with specifically before we can adequately evaluate the propriety of increased user taxes.

Turning to the second aspect after the public values have been identified, we need to discern what are the navigation-specific portions of the waterways expenditures. There are a number of beneficiaries from those expenditures, as was mentioned this morning: Flood control, recreation, water supply, water quality. The list continues.

The Corps of Engineers' current cost accounting system is not adequate to deal with a proper allocation of those costs so that we can determine a fair share with respect to payment of a fair share by the navigation interests.

Senator ABDNOR. Let me ask you this. First, why? But then let's say with a lock and dam we are talking about, and the one in St. Louis would interest you, who else would you allocate that to? I mean besides the people using it.

Mr. WILSON. For every project and for the overall system of projects, there would be a flood control element. There would be recreation aspect.

Senator ABDNOR. By doing that, by adding that lock and dam?

Mr. WILSON. As a replacement lock it is a little different. But in the initial planning of the overall development of the Upper Mississippi River, there is definitely a flood control aspect. It let's you control the flow of water downstream. The locks in the Missouri River are very similar in that regard.

Senator ABDNOR. I am glad you recognize flood control because my State made it possible for you with 500,000 acres of land we gave up. I hope those Missourians remember that.

Mr. WILSON. We appreciate that.

Senator ABDNOR. Go ahead.

Mr. WILSON. Continuing then, with respect to the cost allocation question, fundamentally we believe that we must work on a fair allocation program before we can discern what user taxes should be, what is the proper percentage. One caveat to this we believe in helping you with respect to the water policy question is that the navigation system should be categorized into what would be considered main stem rivers; second, developing rivers, such as the Arkansas and other low-volume port areas, or categories of that nature. The thought there is that if you have an Arkansas River that is designed for 50 million tons and in year one you try to recoup a level a full year's project cost on the start-up volume of freight, that river will not flourish; it will never accomplish the economic development for which it was designed.

The third aspect of our position deals with the transportation policy question, that all modes of transportation are subsidized. We are being asked on a cost recovery basis to repay our subsidy. If all other modes are subsidized, it would seem to be clear that either their subsidy should be eliminated or they should pay their way in order to maintain competitive balance between these modes.

I would think a fundamental aspect of this deals with the national transportation policy that is going to be a problem for this Government over the next 10 years in terms of dealing with the rail monopoly power emerging from the Staggers Act. We look at the end of this decade and see probably 6 to 10 railroads in this Nation all probably regional monopolies. We are going to see the increasing importance of the water transportation system, with one of its functions being a competitive offset to that emerging transportation problem.

The fourth point simply is that if users pay, users should say. We appreciate the opportunity as part of this hearing to be able to have a say.

I would like to turn to a final point before I summarize, and that is the question of the economic condition of the industry. We have heard a lot on this subject this morning. Quite frankly, I was appalled at the lack of knowledge about our plight. This industry is in depression conditions. We are in depression conditions. Right now 30 percent of our equipment is laid up. About that number of employees are laid off. If you look at the shipyards that support our industry, as much as 75 percent of those people have been laid off. Our freight rates, I am speaking in the grain freight area now, are right at variable cost levels. That is to say today there is no contribution to fixed cost or earnings or overhead. What that would mean in a barge line with $50 million of cost, revenues that can be generated are about $35 million, which says that company is losing $15 million.

We don't have the same problems as the railroads of revenue adequacy to get from a 4-percent return to an 11-percent return. We have a negative return. Indeed, we are on a course where survival is the issue.

We heard some remarks this morning with reference to marginal barge lines going out of business. In that context, mine would be one. If this goes for another year or two, mine will be gone. Our net worth will be evaporated. And our company is comparatively in strong condition.

We have done a brief study. My barge line was not associated with it, but Arthur Andersen has looked at 15 major barge lines that in 1980 their total earnings were $133 million. In 1982 they had a total loss of $30 million. This year it will be worse.

Our industry sees no recovery from this. We are associated with the agribusiness community, which does not see itself coming out of its situation for anywhere from 2 to 4 years. The coal industry is in a similar plight, and others. On balance, we are not in a position to pay increased user taxes.

I would like to refer to an earlier question on the 4.7 cents per bushel of increased freight cost under the administration's user tax proposal. The 4.7 cents, Senator, sounds like a small percentage of the price. If you view the fact the farmer might be growing that grain for $2.90 and selling it for $3, it is a heck of a large percentage of the margin.

Senator ABDNOR. Mr. Wilson, I am a farmer paying my bills so I know a little bit about that.

Mr. WILSON. I think that needs to be put in the proper perspective. It is not a percentage of the price; it is a percentage of the margin. Right now we see no margins in the agribusiness community. They are about nil.

The second point is—I would like to respond to an earlier comment—that increased user taxes at this juncture will be passed on to shippers, for example, farmers. If you are selling something for a dollar and your variable costs are a dollar and your variable costs go up 4 cents, you don't continue to sell at a dollar. You cannot make it up in the volume. That is the situation we are in now with the freight rates at variable cost. Thus, the increased variable costs at the user tax would have to be passed on, or we would have to stop providing the service.

In summary, Senator, I would say that our industry wants to be progressive and constructive with respect to the future of the waterways industry. We must be and we want to be part of the solution, not the problem. Our view is that we cannot afford to increase user taxes at this point, but more fundamentally is that the principles I have discussed today of values, of cost allocation, of competitive equity, of "users pay," must be addressed before the Government can fairly increase user taxes.

I would say as a final comment that to the extent we have a quid pro quo on projects versus increased user taxes, our position must be that we can accept no further user taxes and must forgo the projects.

Senator ABDNOR. Thank you. I appreciate that.

Mr. WILSON. That concludes my statement.

Senator ABDNOR. Your entire statement goes more in depth on some of this?

Mr. WILSON. Yes.

Senator ABDNOR. We probably will be getting back with you again.

Mr. WILSON. Senator, to some extent I added a few points with respect to the questions about the 4.7 cents per bushel and the ability to pass on those costs. We would perhaps like to supplement our statement somewhat.

Senator ABDNOR. We would appreciate that. We really would. We want everything we can have before us before we get into this. So don't hesitate including additional material for the record.

Mr. WILSON. Thank you.

Senator ABDNOR. We would be very appreciative of it.

Mr. WILSON. One final point, if I could, with respect to the dollars that you mentioned earlier and the $4.5 billion for waterways expenditures. I believe it is important to keep in perspective that a large percentage of that is capital costs, and those outlays in any given year certainly should not be expected to be recouped from the user taxes in one given year, but would have to be recovered over 50 years of project life. That puts an entirely new dimension on that.

Senator ABDNOR. That is a good point, except I have a hunch there are going to be continual projects coming up as we go along. That is like public housing, section 8. Someone at OMB talked about how much we are committed to down the road. We haven't put that much in it yet. But by the time we take care of our entire obligation on that, we have over $500 billion in it down the years. We can keep building and each time they keep accumulating.

We do have to look at the broad, whole picture. That is what we want to do, and we need your input, and we appreciate it.

Mr. **Wilson**. If we can't pay for it over time, we shouldn't buy them, sir. That is true in any business. A business must depreciate its long-term assets over time.

Senator **Abdnor**. Very good.

Mr. Cook did you have a statement?

Mr. **Cook**. No. We have a combined statement, sir.

Senator **Abdnor**. Good. Then I will call on Mr. Barschdorf.

STATEMENT OF MILTON BARSCHDORF, CHAIRMAN, INLAND RIVERS, PORTS AND TERMINALS ASSOCIATION

Mr. **Barschdorf**. My name, Mr. Chairman, is Milton Barschdorf. I am currently the chairman of the board of the Inland Rivers, Ports and Terminals Association, with deep interest, of course, in the viability of the shallow draft navigable waterway system.

We were organized in 1974, realizing that we had no spokesman at this level to take into consideration our specific problems.

In view of the fact the committee has evidence already on deep water port legislation and is now taking up the shallow draft inland legislation, I think it is important to stress here the difference between the deep water port and the shallow draft inland waterway ports. I am sure many people, even in our own areas who are close to these items, are still not too thoroughly concerned about the distinction. But I would like to point out that the deep water port is primarily a promotion activity for exports and imports by deep draft vessels. The cargo movements in support of this trade move to and from the interior points by truck, rail, and the shallow draft waterways.

Should any of these three inland distribution modes fail, the deep water port can depend upon the other competing modes to bridge the gap and keep shipments moving in the deep water trade. The additional transportation costs are charged off to the shipper and ultimately to the consumer and the taxpayer.

The shallow draft inland waterway ports, on the other hand, are completely dependent upon the one mode, the inland waterways and the towboat industry which moves the cargo. Should this one mode fail or deteriorate, the entire inland port system will likewise fail and deteriorate.

Mr. Chairman, we are deeply concerned that actions already taken since we were in this dangerous situation of a depressed economy should be reviewed a little bit. The fuel tax, stifling the towboat operators' competitive position by passage of the Staggers Act, adopting and continuing the policy of no new construction starts since 1976, these are very important elements that have aggravated our situation. We are losing a great deal of our economic capability.

I have other items here that I would like to stress. I have a statement that I submitted for the record, Mr. Chairman.

Senator **Abdnor**. We will put that in.

Mr. **Barschdorf**. I wrote this to go into a little more detail. I will summarize this.

Senator **Abdnor**. Let me say to all of you gentlemen that any additional material that you feel needs to be included in the record, as we told Mr. Wilson, we would be happy to receive that at a later time, if you want to do it in the next few days.

Mr. **Barschdorf**. I would like to have it for the record here, Mr. Chairman, if possible. These are some of our viewpoints.

Senator **Abdnor**. Fine.

Mr. **Barschdorf**. We feel we are very much oriented toward an integrated system. We feel that this country needs the best and most efficient transportation system in the world. I don't think we have gotten into this.

The piecemeal approach of singling out one mode at a time for special treatment, adverse or otherwise, is not the proper approach to a more efficient and effective national transportation policy.

Due to the highly competitive nature of the transportation modes and their service vital to the national good, Federal subsidies in whatever form play a crucial role in the establishment of a comparable base from which to measure the true cost of services and capability to compete.

This comparable base for all modes should be determined and credit be given to each mode in proportion to its contribution to the Federal Treasury in terms of custom receipts and enhancement of national security. User charges and taxes, if found justified, may then be assessed to recover such differences that might then exist between these benefits to the Federal Government and the subsidies bestowed by the Federal Government.

Taxes in excess of this, if justified in order to meet Federal deficits, may then be applied across the board to all modes on a ton-mile basis. We know that the subsidies to the railroads are already in the neighborhood of 3 to 1 to the subsidies to the barge lines. We feel that this should be leveled before any determination is made on user charges.

We are keenly aware that this approach does not offer a major contribution to the administration's search for additional means of creating revenues to run the Federal Government. It does, however, offer an approach to the development of an efficient and most economical intermodal transportation system which will generate significant savings to the shipper, consumer, and most important to the taxpayer. The funds presently wasted in artificially raising transportation costs would thus be saved and could be applied to more worthy programs.

We feel that procedures developed over the past 159 years wherein the Federal Government, the States, and local interests formed a partnership in the development of the inland navigable channels and ports by sharing the costs in relation to the benefits accruing to each participant have proven successful and highly productive in the orderly and timely development of this great natural resource.

Under this procedure, the inland ports share the construction by assuming the costs of all land acquisition and rights-of-way and the developments thereon, including terminal berths, while the Federal Government bears the cost of the channel improvements and channel maintenance. A detailed economic analysis by the U.S. Army Corps of Engineers as the agent of the Federal Government establishes the basis for authorization and subsequent funding.

We submit that this system is still the most practical, equitable and cost effective from a national and local standpoint than any of the several cost-sharing proposals put forth so far.

For these reasons we are strongly opposed to any type of user charges or taxes upon the inland waterway systems until conclusively justified by a thorough, unbiased economic study which includes a determination of the impact upon the transportation modes and the infrastructure of the Nation, including the inland ports and terminals and the local and regional areas they serve. This detailed analysis should include a breakdown which clearly identifies the beneficiaries of the Federal subsidies involved.

Mr. Chairman, someone mentioned that 205 study and the Department of Transportation hasn't made a detailed analysis. Well, they have not done this. When this report was made on the 205 study, several areas were left out, including the economic study of the infrastructure. This has not been addressed by Congress, or this has not been submitted in detail to the Congress to understand the problems. We feel this is a gap that must be filled.

We are not opposed to the assessment of user charges or taxes provided they are justified and imposed fairly and equitably to all modes and to all clearly identified beneficiaries.

We most respectfully ask your careful consideration of the matters brought forth in these comments and the statement submitted for the record and urge your support in providing our Nation with the most efficient transportation system possible, thereby enhancing not only the domestic economy but the world markets.

Senator ABDNOR. Thank you, Mr. Barschdorf.

Mr. Mueller?

STATEMENT OF W. J. MUELLER, DIRECTOR, TRAFFIC AND TRANSPORTATION, AGRICO CHEMICAL CO., ON BEHALF OF THE FERTILIZER INSTITUTE

Mr. MUELLER. Mr. Chairman, my name is W. J. "Bill" Mueller. I am director of the traffic and transportation for Agrico Chemical Co., which is in Tulsa, Okla. I appear here today on behalf of the Fertilizer Institute.

I know you want to speed things along so I am going to try to help you.

Senator ABDNOR. Mr. Mueller, you heard me say we will put the entire statement, or anything else you want to include, in the record.

Mr. MUELLER. I will add a few supplementary comments. I do want to highlight, though, that the Fertilizer Institute opposes the enactment of Senate bill 1554 because it would place an unnecessary burden on American agricultural exports. There is inadequate information regarding cost allocation of the inland navigation system. Enactment of Senate bill 1554 will result in a ton-mile tax plus the current fuel tax, an inequitable water user fee policy for water transportation.

Mr. Chairman, frankly, I don't know who you are going to get to pay the additional cost, that Senate bill 1554 will place on the agriculture, barge, and fertilizer industries at this point in time. The agricultural industry can't afford it at this point in time. Congressman Jones of Oklahoma in his recent newsletter to his constituents points out, and I quote: "American products of all kinds have always been competitive abroad when they have been given a fair chance to compete."

Senate bill 1554 will place substantial additional constraints on the agriculture and fertilizer industries' fair chance to compete abroad.

The barge industry at this time cannot absorb the charges in Senate bill 1554, as was stated by Mr. Wilson.

Let me give you one example that I am personally familiar with. In the first 6 months of this year, a barge company who specializes in hauling liquid fertilizers has been paid $1 million less by one customer than he was paid during the same period in 1982. That is a 45 percent reduction in cash flow from one account.

The fertilizer industry cannot afford it. The fertilizer industry lost $83 million in calendar year 1982. It lost another $50 million in the first 3 months of 1983. How can the fertilizer industry absorb the increased rate cost that Senate bill 1554 will bring about?

For example, on a barge shipment of dry fertilizer from Louisiana origins to Savage, Minn., the current freight rate is $2.50 per short ton. The 1.1 mill per ton mile proposed in Senate bill 1554 would increase this rate 72.4 percent. This is in addition to the additional 2 cents per gallon fuel tax scheduled to go into effect on October 1, of this year.

Mr. Chairman, I thank you for the opportunity to come in here and supplement my remarks.

Senator ABDNOR. We thank you, Mr. Mueller. If I brush people, I am sorry. Time does run out on us.

Let me ask, are you all in agreement then as far as you and your industries are concerned, that you would just rather go on as we are at the moment until we come up with a more concrete, or you think a better, more sound program that is based on all factors that we talked about here today? In other words, I guess you all realize the dire straits we are in regarding expenditures. We are not just talking about inland waterway construction. We are talking about deepwater ports, flood control projects. We are talking about cost-sharing in all areas. We are just not going anywhere. I would like to get moving on some kind of a program. We want to be fair about it, but I want to get moving if we can, because this country can't afford to be stymied and shut down completely. I don't know what is going to be fair and equitable, but I believe, Mr. Wilson, you more or less have said that until we have a more sound program, you just as soon more or less want to go on like we are.

Mr. WILSON. Unequivocally.

Senator ABDNOR. Is that pretty well your feeling?

Mr. BARSCHDORF. Yes, sir.

Mr. MUELLER. That is our position also.

Senator ABDNOR. I am sure we are going to be needing a lot more information and input. Any time you have something to give us that we need to be made aware of, please let us know. It is a real challenge. I tell you, I thought I had a challenge in the Joint Economics Committee when talking about the new farm program for the future and where we are going. But we just can't afford to do nothing, and I want it to be right. But we are going to work right along on this. I thank you for coming.

I am going to also include for the record statements by Senators Packwood and Byrd. Without objection, they will be made a part of the record. [See pp. 289 and 291.]

Senator **Abdnor**. This is not to embarrass anyone, but you two gentlemen are from St. Louis. Speaking specifically of locks and dam 26, I am for moving forward, and I am really a very broad-minded person, I think. I am trying to be as fair as I can. But I am getting a little parochial here. I know you two gentlemen are aware of this dispute we have going between your State and mine. I just wondered if you realized the importance down there of water and what it means to my State. I sometimes hope that you can help me come up with some kind of solution, why grown people can't sit down and discuss a problem like we have.

Maybe this is not the place that I should bring it to anyone's attention for the record, but I am just going to touch on it. For instance, we are talking about the State of Missouri blocking a whole program because of a project that would use less than one-fortieth as much water as evaporates in a year out of that dam. It is so minute. One-fortieth, that is what we are talking about.

I just can't believe you people think it is right that the State of Missouri ought to be able to block that. They ought to be willing to cooperate on water projects. By golly, down in the State of Missouri they don't even allocate water. They don't even control their water usage by citizens. They don't even have a permit system like we do in most States.

I just hope when you go back to your States you try to reason with them, because I find myself in quite a quandary here when I certainly have never downplayed the importance of projects, but we do have to make some tough decisions here. Maybe we are not going to have to worry about it anyway if we don't find some way to fund these projects. But it is something that I think we could all very well get together on.

I just plead to you gentlemen to maybe help me smooth this thing over and make it a lot easier for all of us to sit down and discuss with reasonable people the water allocation, and hopefully reasonable men can decide some fair way to come up with a program to build these projects that the Government can afford and consumers can afford and the taxpayers and everyone else.

We do thank you all very, very much for your attendance here today and your patience. We didn't mean to hold you over to the last here. I guess someone has to be last.

Mr. **Wilson**. Senator, with all due deference, with respect to your last comment, we want to acknowledge that. I do want you to know our company is part owned by GTA which operates in South Dakota and other parts of the country. We sympathize with this dilemma. You are right, reasonable people ought to be able to get together and talk that out. I suspect that will be the scenario.

I am begging your permission to add one point, if I could. We must have full understanding about the point that you brought up with respect to the farmers in South Dakota who are out there subsidizing the railroads competition with respect to the water and barge traffic. They do that, sir, but there will be absolutely no change based on changes in user taxes. The reason is the rail industry, without the Staggers Act, will charge what the traffic will bear. They now can charge more at a water-compelled interface, for example, in the Missouri area; there are absolutely no pressures to make those rates come down out there if user taxes are increased. The only thing that will bring them down is competition.

That is one of the reasons why you have a tough job here, sir; transportation is a big part of these water resources questions, and we must have competition in transportation. The Nation is going the other way. These user tax increases are right parallel to that wrongheaded direction.

Senator **Abdnor**. Very fine. Your point is well taken. Thank you.

[Whereupon, at 12:30 p.m., the subcommittee was recessed, to reconvene subject to the call of the Chair.]

[Statements supplied for the record and the bill S. 1554 follow:]

STATEMENT
of
SENATOR ROBERT C. BYRD

Mr. Chairman, thank you for allowing me the opportunity to again urge approval of the authorization of the Gallipolis Locks and Dam project, to replace the existing facility located on the Ohio River.

The Gallipolis Locks and Dam is strategically located between the highly industrialized Upper Ohio River Basin area and its market and supply regions. Consequently, all the states along the Ohio River use this congested and deteriorating facility, as do many mid-western and Gulf Coast states.

Gallipolis serves an area from Pennsylvania to Nebraska, and as far south as Alabama, Louisiana and Texas. In fact, over 750 individual river docks generate traffic which uses the Gallipolis Locks. Owners of these docks represent 300 of the largest corporations in the country.

Thousands of jobs are affected directly by the Gallipolis facility and countless thousands more are indirectly affected. The project is particularly important for the movement of coal to markets.

Towboats, during normal economic times, wait an average of eight hours to transit the existing facility, creating tremendous costs to shippers and ultimately to the consumer. Corps officials project that unless these inadequate facilities are replaced with a modern, efficient facility, this eight-hour delay could extend to 30 hours of delay by the end of the century.

Studies have been completed and approved by the Chief of Engineers, Army Corps of Engineers, that show the project would generate

$170 million of benefits annually with a benefit-to-cost ratio of 12 to 1. The project enjoys bipartisan support from the Governors of the affected states, their Congressional representatives and the towing and shipping industry. The project has been thoroughly and extensively reviewed in accordance with long-standing policies of water resource and transportation agencies -- the Department of the Interior, Department of Commerce, Department of Transportation, the Environmental Protection Agency, and the appropriate State-level agencies. I am told that there are no unresolved environmental issues associated with it.

So that orderly progress leading to early construction of this non-controversial project -- which enjoys broad-based, non-partisan support--could be made, the Army Corps of Engineers has proceeded, under the provisions of the funding category of Continuation of Planning and Engineering to prepare detailed engineering and design studies. During F Y 1982 and F Y 1983 such work has proceeded on Gallipolis.

As a result of this design work, the Corps of Engineers plans to complete detailed engineering studies in December 1983. When these detailed engineering studies are completed, the Corps will be faced with having neither the funds nor the authorization to proceed further. This means that the preparation of required plans and specifications cannot proceed, and I am concerned that each month we delay this authorization the problem of project completion is compounded. Further, we are incurring needless additional operations and maintenance costs on a project -- the existing facility -- which is already widely recognized as the Ohio River bottleneck. Additional delays will also bring about increased construction costs due to inflation.

I, therefore, want to urge that the Subcommittee take action to include this crucial authorization language in the inland waterways measure which is reported to the full Committee for action.

STATEMENT BY
SENATOR BOB PACKWOOD (R-OREGON)
BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES
JULY 18, 1983

MR. CHAIRMAN: I am pleased to take this opportunity to emphasize the importance of a new navigation lock at Bonneville dam on the Columbia River. Although the lock is located on the Oregon side of the river, the importance of a replacement lock is not limited to the local area. Traffic on the entire Columbia/Snake River system passes through Bonneville lock, carrying cargo from as far away as Montana, and from such ports as Lewiston, Idaho. The fact that Bonneville lock has been included in three separate Senate bills this year demonstrates its importance among national water projects.

A replacement lock at Bonneville is a high national priority for a number of reasons. Most important is the fact that this lock, which is far smaller than any of the upstream locks, is the weakest link in the entire Columbia/Snake River system. Thirty million tons can pass through the upstream locks each year, but only 13 million tons can travel through Bonneville. The existing lock, built in 1938 before size standards for navigations locks were established, requires lengthy delays in the shipment of cargo. The average time now required to traverse the lock is 12.7 hours, compared to 1.9 hours for a standard lock in that location. This creates a tremendous bottleneck at this crucial point in the river. The bottleneck is serious now. It will only get worse.

In addition to these size limitations, which themselves are sufficient to warrant a replacement navigation lock, the existing lock also has hazardous entrances for both upstream and downstream traffic. Entering the lock from the east, or upstream end, is extraordinarily difficult. The north lock wall at this entrance is greatly scarred from collisions by barge tows, attesting to the hazard presented to barge operators each day.

There is no question that the existing Bonneville lock needs to be replaced. It is simply a question of time. In 1979, Senator Hatfield and I recognized this fact, and introduced an authorization bill. The project remains unauthorized. Since then, the severity of the problem and the cost of the solution have only increased. And they will continue to increase.

Mr. Chairman, a replacement lock at Bonneville dam needs to be authorized and built now. Delays in the construction of a new lock will only lead to a further deterioration of the existing lock and to a much higher replacement cost.

My name is Barry Palmer; I am Executive Director of DINAMO/OVIA -- the Association for the Development of Interstate Navigability in America's Ohio Valley. We are a coalition of business, labor and state governments urging expeditious Congressional authorization for the replacement of deteriorated and obsolete locks and dams on the Ohio River and its navigable tributaries.

The replacement of the Gallipolis Locks and rehabilitation of the dam are DINAMO/OVIA's highest priority. In addition, we strongly urge the replacement of the deteriorated facilities at Locks and Dams #7 and #8 on the Monongahela River. The Winfield Lock and Dam on the Kanawha River are a third project considered in most urgent need of replacement by DINAMO/OVIA.

There is legislation in both Houses of Congress that would authorize construction at these sites, and DINAMO/OVIA is here today to express our concern that all of these critically-deficient inland navigation projects are included in Congress' final authorization package.

Speaking on behalf of DINAMO/OVIA today is Dr. Thomas D. Larson, a member of our Executive Committee, and Secretary of the Pennsylvania Department of Transportation.

WRITTEN TESTIMONY

Presented by:

Dr. Thomas D. Larson
Secretary
Pennsylvania Department of Transportation

Prepared for:

Water Resources Subcommittee
of the
Senate Environment and Public Works Committee

Submitted by:

DINAMO/OVIA
The Association for the Development of Interstate
Navigability in America's Ohio Valley

411 Seventh Avenue, Suite 1102
Pittsburgh, Pennsylvania 15219

(412) 392-4550

Date Submitted:

July 18, 1983

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity today to present our views on Congressional authorization of critically important inland navigation projects included in S947 and S1171. As Secretary of the Pennsylvania Department of Transportation, I represent one of the states which will be directly affected by the final authorization bill which evolves from this Subcommittee. As a Member of the Executive Committee of DINAMO/OVIA, I represent just one facet of the broad range of business, labor and state governments from throughout the Ohio Valley urging expeditious modernization of our inland navigational infrastructure.

S1171 was introduced by Senators John Heinz and Wendell Ford and is currently co-sponsored by 19 of your Senate colleagues, from both parties and from throughout the nation. This legislation would authorize five inland navigation projects in addition to those included in S947. That bill would authorize only the Ohio River's Gallipolis Locks and Dam, and the Columbia River's Bonneville Lock.

The additional projects in S1171 are:

-- Gray's Landing and Point Marion projects, which would replace obsolete navigation facilities at L/D 7 and 8 on the Monongahela River, Pennsylvania;

-- Winfield Lock, Kanawha River, West Virginia;

-- An auxiliary chamber at replacement Lock #26, Upper Mississippi River, Illinois; and

-- Oliver Lock, Black Warrior River, Alabama.

DINAMO/OVIA's primary interest in both bills is, of course, on those priority projects within our region of responsibility -- Gallipolis, Gray's Landing, Point Marion and Winfield.

As Senator Heinz pointed out when introducing his Bill, S947 recognizes the crucial importance of Gallipolis to commerce and jobs in 19 states. DINAMO/OVIA commends the author of S947, Senator James Abdnor, and the authors of S1171 for including this urgently needed improvement project in both bills.

However, because our inland waterways have been neglected for seven long years, and because the Federal commitment to building and maintaining our inland system has been declining in real terms, DINAMO/OVIA concurs with Senator Heinz and his 20 colleagues that, unless the additional projects in S1171 are included in the Subcommittee's final authorization package, the Ohio Valley will find itself accelerating toward serious, even disastrous economic consequences.

In support of our recommendations for authorization, the key fact is that the economic vitality of the Ohio Valley depends directly on an efficient waterway transportation system which interconnects our region with national and world markets. The continued economic viability of our economy for our region is already endangered by the deterioration, obsolescence and inadequacies of certain locks and dams in our Ohio River Navigation System.

Certainly, the first priority and the most pressing need is the replacement of the Gallipolis Locks located 279 miles downstream of Pittsburgh, the largest inland port on the inland waterway system. Halfway between Pittsburgh and Louisville, it epitomizes our deteriorating infrastructure. It represents a severe chokepoint between the Pittsburgh steel mills, much of their coal supply and much of their market, shaving a few cents per ton off their ability to compete with imports. Products from ninteen (19) different states move through Gallipolis.

The Gallipolis Locks and Dam provide the gateway between the Upper Ohio Basin and the entire Middle West and Gulf Coast. This facility is the most severe bottleneck to navigation on the Ohio River between Pittsburgh and the Mississippi. The main lock is only 600 feet long, the auxiliary lock 360 feet. Between the Pennsylvania border and the Mississippi there are seventeen (17) other lock and dam installations, all but one equipped with a 1,200 foot main lock and a 600 foot auxiliary. The newly completed Smithland Locks on the Lower River is equipped with two 1,200 foot locks. Thus, the Gallipolis structure is the only one in this 940-mile distance not equipped with a modern lock 1,200 feet long.

Furthermore, the 45-year old locks and dam are badly deteriorated and are so located on a bend in the river as to constitute a serious hazard to navigation.

This facility stands like a two-lane bridge in a six-lane highway. Traffic has been expanding at Gallipolis for many years, and congestion is becoming very commonplace. By 1990, the earliest date at which it is reasonable to expect replacement locks to be operative, traffic is projected by independent studies prepared for the Corps of Engineers to reach a range of 64.5-71 million tons, when average delay time in waiting access to locks is expected to reach 32 hours per tow transit. This average obscures the fact that delays of 100 hours are not uncommon. It is responsibly estimated that the cost of such delays will reach approximately $129 million in 1983 dollars. Deterioration requires the closing of the main lock for extended periods for repairs.

The Corps of Engineers estimates that by 1990 about 15 million tons of traffic will be driven from the river as a result of Gallipolis congestion. This economic burden would, of course, be a reflection of chaotic traffic conditions particularly as the aging and deteriorating locks require more and more downtime for repairs. Congestion would, at times, reach crisis proportions, shipping schedules would be severely disrupted, threatening orderly production of electric power, steel, petroleum, and chemical products and other essentials to the grave impairment of the Basin economy. Severe repercussions would extend beyond the base to areas supplied with electric power, steel and other products from Basin sources or providing raw materials or finished products for the Basin industries and consumers.

Some conception of the extent and severity of traffic conditions by 1990 may be obtained from the recent experience at Gallipolis during the shutdown of the main lock. According to industry sources, on December 1, 1980, 17 upbound tows and 13 downbound tows were awaiting access to the available 300 foot lock, through which modern commercial tows had to be locked in 5 or 6 sections requiring many hours. The average delay time waiting access on that date, in addition to time consumed in multiple lockages, was 4 days, 20 hours and 20 minutes per tow. The waiting tows were strung out for 4 to 5 miles. Such shutdowns for maintenance and repair will, of course, become more frequent as deterioration of these obsolete facilities continues.

The Ohio River Basin is a mature industrial economy. Over generations of time, the structure of the processing of energy industries of this region evolved on a base of water transportation. Extensive installations are sited and laid out exclusively for receipt and shipment by water. And no feasible alternative routings are available. The adverse impact of congestion at Gallipolis on the region and the nation's productivity, employment and energy are very substantial.

Conforming Gallipolis with Ohio River projects extending for hundred of miles above and below it, a modernized Gallipolis facility can make a major contribution to both the regional and national economy by increasing employment opportunities, productivity, restraining inflation, and strengthening the balance of payments.

The electric power industry in the Ohio Valley provides significant support to national energy security and the U.S. balance of payments. This industry is a large volume consumer of coal, principally waterborne. Its megawatt capacity provides electric power through an extensive marketing area extending to Southern Michigan, Northern Ohio, Western New York State and other Northeastern points. Increasing obstruction of coal receipts via Gallipolis will impair the growth potential of this power base and substantially increase its cost.

The reliance of the steel industry of the Pittsburgh and Ohio Valley districts on these locks is also a critical factor in the productivity of the industry and the welfare of its employees and of the U.S. balance of payments. The industry's costs are directly affected by its dependence on large tonnages of low-volatile metallurgical coal upbound via Gallipolis. In addition, these districts ship millions of tons of finished steel via the Ohio River to the Lower Mississippi Valley and Gulf Coast markets in direct competition with growing volumes of Japanese, Korean, Brazilian and Common Market steel. The finished steel transits at Gallipolis in a recent year represented an industry revenue of $472 million and provided thousands of jobs in the region.

I have attached to my prepared statement copies of material prepared by Professor Marvin Barloon from Case Western Reserve University as to the critical importance of early modernization of the Ohio River Navigation System for the coal, steel and chemical industries of the Ohio River Basin.

I would like to take this opportunity to bring to the attention of the Committee the importance of prompt replacement of Locks and Dam #7 and #8 on the Monongahela River, which are our second priority. These projects have been in operation since 1925. Over the years, they have been allowed to deteriorate without a comprehensive program for modernization. The areas served by the waterway system have low and medium sulphur coal reserves with a life of 75 years. As the nation moves toward energy independence, these reserves will grow in importance. Replacement of 7 and 8 will help revitalize the economic growth of the region. Modern facilities of adequate size to accomodate future traffic growth would permit expansion of markets for the region's important coal reserves and would stimulate capital investment and related economic activity. Employment would, of course, increase, and the region, which now suffers from sub-standard income levels would be enabled to move forward to full participation in national income standards.

It is an immediate necessity that these inadequate and badly deteriorated facilities be replaced in order to avert the danger of collapse. Such an event would not only block navigation for an extended period, it would also gravely impair vital water supply now maintained by these weakened structures for communities, electric utilities and industries in the region. The national economic development benefits of replacement of these locks clearly justify the expenditure required for their construction.

In its wider aspect, the replacement is to insure the security of coal supplies for the Ohio Valley steel industry. Replacement with modern facilities would reduce the industry's fuel costs and would greatly strengthen its competitive position.

We also recommend the completion of the study for the replacement of the Winfield Locks on the Kanawha River. This lock restricts coal traffic as well as shipments to and from the chemical complex in the Charleston, West Virginia area. Coal, both steam and wet, from this area is vigorously competing in the world coal market. Most Kanawha River tipples are mine to river tipples, and therefore, are more competitive than those mines that depend on the railroads to get to the river.

I need not quote for your today the many statistics you already know about river transportation of bulk cargo such as steel, coal, chemicals and grain. We all know river tonnage is projected to increase greatly in the years ahead; we all know that river transport is the most cost-effective method of bulk cargo movement available; we all know that navigable waterways are the foundation of the industrial corridor that extends from Pittsburgh to St. Louis and beyond.

And we all know that deteriorating and obsolete locks and dams are causing increasing costly delays that are seriously jeopardizing the continued viability of our region.

We all know these facts, yet Congress has not authorized a single navigation improvement or replacement project in the Ohio Valley since 1964.

I will quote for you one statistic that I find frightening.

According to a study commissioned by DINAMO/OVIA, if nothing is done to remedy the situation at, for example, Gray's Landing and Point Marion in a reasonable amount of time, 15,200 jobs directly and indirectly dependent upon the Monongahela River could be lost by the year 2000; 19,800 jobs lost by the year 2040.

These are jobs in Pennsylvania and West Virginia, two states hardest hit by the harshest recession in recent memory.

Continued costly delays on river traffic caused by inaction to modernize our deteriorated and obsolete locks and dams will seriously diminish a full economic recovery for our region.

It is also especially important that authorization and construction of these essential projects not be conditioned upon the highly controversial and complex question of waterway user charges. While DINAMO/OVIA shares your concerns about controlling all Federal expenditures, appropriate consideration of the user charge issue, if linked to project authorization, could delay construction so long that an irreversible withdrawal of capital from the Ohio Valley and other areas could occur, resulting in grave economic consequences such as those I have just described.

Again, DINAMO/OVIA appreciates the opportunity the Subcommittee has given us to express our view that the direct impact of these deteriorated and obsolete locks and dams on commerce and jobs in our region can no longer be ignored. The studies have been completed. The evidence is there that replacing these structures is a matter of national urgency. What we need from you, gentlemen, is a clear signal from the Congress that the inland navigation system of the Ohio Valley has a future and has not been written off. The seven projects included in both S1171 and S947 must be included in the final authorization bill to be considered by Congress in this session and such authorization should not be deferred pending resolution of the user charge issue.

Thank you.

TESTIMONY OF SENATOR RUDY BOSCHWITZ
FOR THE
SUBCOMMITTEE ON WATER RESOURCES COMMITTEE
ON ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE
JULY 18, 1983

MR. CHAIRMAN, I APPRECIATE THE OPPORTUNITY TO TESTIFY WITH RESPECT TO S.947, THE OMNIBUS WATER RESOURCES BILL. I CONGRATULATE MY FRIEND, THE SENATOR FROM SOUTH DAKOTA, FOR HIS LEADERSHIP IN TRYING TO RESOLVE THE MANY DIFFICULT ISSUES RELATED TO OUR NATION'S WATER RESOURCES.

MR. CHAIRMAN, ON FEBRUARY 3, I INTRODUCED S.449, THE UPPER MISSISSIPPI RIVER MANAGEMENT ACT OF 1983. IT IS COSPONSORED BY NINE OF MY COLLEAGUES. THIS LEGISLATION, WHICH FOLLOWS CLOSELY THE RECOMMENDATIONS OF THE UPPER MISSISSIPPI RIVER BASIN COMMISSION, CONTAINS AUTHORIZATION FOR ENVIRONMENTAL, RECREATIONAL AND NAVIGATIONAL IMPROVEMENTS ON THE UPPER MISSISSIPPI RIVER.

MR. CHAIRMAN, WHAT I WOULD LIKE TO DO IN MY TESTIMONY THIS MORNING IS BRIEFLY OUTLINE THE HISTORY OF THE UPPER MISSISSIPPI RIVER SYSTEM, DESCRIBE THE COMPONENTS OF THE LEGISLATION, AND EXPLAIN ITS NEED.

BRIEF HISTORY OF THE UPPER MISSISSIPPI RIVER SYSTEM

Congress has recognized both the navigational and environmental importance of the Upper Mississippi River System. In 1824, Congress authorized the removal of local obstructions and snags in the river hampering navigation.

In 1924, Congress established the Upper Mississippi River Wildlife and Fish Refuge. In 1930, Congress authorized a 9-foot deep, 300-foot wide channel from St. Paul to Cairo, Illinois, to allow larger barges to navigate the river.

Between 1930 and 1970, Congress continued to recognize the environmnetal and navigational importance of the area. In addition to the construction of 29 locks and dams, the Trempealeau and Mark Twain National Wildlife Refuges were added.

The Water Resource Development Act of 1976 authorized the Great River Environmental Action Teams (GREAT) to study dredging and disposal problems along with other environmental and recreational management practices. Those GREAT studies were completed in 1980 and many of their recommendations are currently being implemented.

In 1978, Congress authorized the reconstruction of Lock and Dam 26 at Alton, Illinois in the Inland Waterway Authorization Act. At the same time, the Upper Mississippi River Basin Commission was authorized to develop a master plan for the comprehensive management of the system.

THE BASIN COMMISSION COMPLETED THE MASTER PLAN AND SUBMITTED IT TO CONGRESS IN JANUARY 1982. IT INCLUDED TWELVE RECOMMENDATIONS DESIGNED TO PROVIDE A BALANCED MULTI-PURPOSE MANAGEMENT PLAN FOR THE SYSTEM. WHILE A NUMBER OF BILLS WERE INTRODUCED IN THE 97TH CONGRESS, NO LEGISLATION WAS PASSED.

THE UPPER MISSISSIPPI RIVER MANAGEMENT ACT.

THE BILL I HAVE SPONSORED
CLOSELY FOLLOWS THE RECOMMENDATIONS CONTAINED IN THE MASTER PLAN. S.449 CONTAINS AUTHORIZATION FOR THE FOLLOWING PROGRAMS:

- HABITAT REHABILITATION AND ENHANCEMENT PROGRAM.
  NATURAL FACTORS AND INTENSIVE USE OF THE UPPER MISSISSIPPI RIVER SYSTEM HAVE TAKEN THEIR TOLL ON THE RIVER, CAUSING THE LOSS OF AQUATIC AND TERRESTRIAL HABITATS AND THE FILLING IN OF BACKWATER AREAS. THIS PROGRAM WOULD ALLOW FOR THE PLANNING, CONSTRUCTION AND EVALUATION OF PROJECTS TO PROTECT AND REHABILITATE THE RIVER SYSTEM.

- SECOND 600-FOOT LOCK AT ALTON, ILLINOIS.
  SEVERE DELAYS AT LOCK AND DAM #26 HAVE CAUSED EXCESSIVE EXPENSE TO TAXPAYERS. THIS LOCK WILL PROVIDE A SOUND NAVIGATION SYSTEM FOR MANY YEARS PROVIDING THE NECESSARY TIME TO CONCENTRATE ON REHABILITATING OUR RESOURCE.

- Program for Recreational Projects.
  According to the Upper Mississippi River Conservation Committee, river-corridor-related activities account for over $1 billion to the area annually. Thousands of small businesses will benefit.

- Long Term Resource Monitoring Program.
  The Secretary of the Interior along with state conservation agencies will monitor resource conditions to establish priorities for future resource development and rehabilitation.

- Computerized Inventory and Analysis System.
  The Secretary of the Interior along with state conservation agencies will maintain all data concerning the Upper Mississippi River resource. The computer system will allow for updated projections for future programs along the river.

- Program to Monitor Traffic Movements.
  The Army Corps of Engineers will monitor traffic movements to estimate future traffic projections so rehabilitation projects can be established to offset the impacts of continued use of the resource.

Need for the Upper Mississippi River System Management Act

Mr. Chairman, the people of the Upper Midwest have long recognized the value of the Mississippi River system. They recognize its value for carrying goods downriver for shipment to foreign ports. They recognize its value as a home for a large variety of fish and wildlife and as a vital "flyway" to 75% of the Nation's migrating waterfowl. And they recognize its value for recreational enjoyment. This legislation recognizes these multipurpose uses of the river and authorizes programs to manage it as such.

A major part of this bill is the authorization of a second chamber at Locks and Dam 26. This is very important because the Mississippi River provides a vital link to the commercial waterway system.

Located near Alton, Illinois, Locks and Dam 26 is strategically positioned just 15 miles south of confluence of the Mississippi and Illinois Rivers. Together, those two rivers have sent about 70 million tons of cargo annually through Locks and Dam 26. Unfortunately, the practical capacity of No. 26 is 65 million tons.

A new lock that was authorized by Congress in 1978 will increase this capacity to 85 million tons. However, that will not solve the long-term problem. Current projections show the river capacity will exceed that level by the early 1990's.

The importance of this to the future of Minnesota's agricultural exports cannot be overstated. In recent years Minnesota's agricultural exports, based on our percentage of national farm output, has jumped dramatically and currently Minnesota farmers, and other Midwestern farmers, are shouldering the burden of millions of dollars of excessive costs when traffic is held up by the bottleneck at Locks and Dam 26. Two day delays are not unusual, and with transportation costs dtermined by the hour, this means money.

The Upper Mississippi River system is unique as it is the only inland river in the United States that is both a federal commercial Navigation project and a major national wildlife refuge.

The wildlife refuge spans 560 miles, from Wabasha, Minnesota to St. Louis. Along the banks of this refuge are 290,000 acres of wooded islands, waters, and marshes all largely untouched.

As I stated before, this area is a vital "flyway" to 75 percent of the Nation's migrating waterfowl. It is also the home of 270 species of birds, 50 species of mammals and 123 species of fish and 35 species of reptiles and amphibians.

Unfortunately, the backwater areas which are the invaluable breeding areas, are slowly being destroyed by sediment deposits. The natural process of heavy rains, spring runoff, and snow

MELTS WASH SEDIMENT FROM FIELDS INTO STREAMS AND TRBUTARIES. AT THE SAME TIME, DETERIORATING RIVER BANKS CREATE MORE SEDIMENT. EVENTUALLY THE SEDIMENT IS DEPOSITED ON THE INSIDE OF RIVER BENDS AND THE BACKWATER AREAS. IN FACT, SINCE 1939, SEDIMENT HAS CHANGED 25% OF THE OPEN BACKWATER AREAS TO MARSHLAND.

WE CANNOT ALLOW THIS VALUABLE RESOURCE TO CONTINUE TO DETERIORATE UNCHECKED. THAT IS WHY THIS BILL ALSO CONTAINS AUTHORIZATION FOR A HABITAT REHABILITATION AND ENHANCEMENT PROGRAM. THIS PROGRAM WILL HELP TO PROTECT AND REHABILITATE THOSE HABITATS THAT WOULD BE OTHERWISE LOST BECAUSE OF THE CONTINUING DETERIORATION OF THE RIVER.

THE MASTER PLAN AND SUBSEQUENTLY THIS LEGISATION, RECOGNIZES THE IMPORTANCE OF RECREATION ALONG THE RIVER. A PROGRAM OF RECREATIONAL PROJECTS IS AUTHORIZED AS WELL AS AN ASSESSMENT OF THE ECONOMIC BENEFITS GENERATED BY RECREATIONAL ACTIVITIES ON THE UPPER MISSISSIPPI RIVER SYSTEM.

MR. CHAIRMAN, THE MISSISSIPPI RIVER IS IMPORTANT TO MINNESOTANS AND OTHERS IN THE UPPER MIDWEST BECAUSE ITS USE FOR COMMERCIAL NAVIGATION MEANS JOBS, ITS USE AS A HOME FOR FISH AND WILDLIFE MEANS ENVIRONMENTAL QUALITY AND IT ALSO IS A PLACE OF RECREATIONAL ENJOYMENT. IT IS A RESOURCE OF MULTIPLE USES AND MUST BE MANAGED AS SUCH.

THE LEGISLATION I HAVE INTRODUCED BALANCES THESE MULTIPLE USES. I CAN SAY AS ITS AUTHOR, THAT THIS BILL DOES NOT COMPLETELY

ANY OF THE COMPETING INTERESTS, BUT DOES INDEED BALANCE THOSE INTERESTS AS A TRUE COMPROMISE MUST DO.

THANK YOU.

MINNESOTA-WISCONSIN BOUNDARY AREA COMMISSION
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July 14, 1983

Honorable Rudy Boschwitz
United States Senate
Hart Office Building
Washington, D.C. 20510

Dear Senator Boschwitz:

We learned today of the opportunity you will have to appear on behalf of your bill for the Upper Mississippi River System improvements and protection programs (S. 449) on Monday morning, July 18, before the Senate Water Resources Subcommittee. This is wonderful news and represents an important first official public hearing statement on the Upper Mississippi River System Master Plan in the U.S. Senate. As you know, there have been no hearings in the Senate on this matter up to this time even though the plan was presented to Congress on January 1, 1982.

We heartily applaud your leadership on this important set of issues in this session of Congress. We trust you will present a very thorough statement emphasizing the multi-purpose nature and policies unique to the Upper Mississippi River System. It is critical to get a commitment from Congress in this session on the full range of uses and needed improvements for the largest and most diverse waterway system in the United States.

I am enclosing several copies of our official statement on the Master Plan which supports the basic thrust of your legislation. We request that you submit our statement for the record as a part of your Subcommittee appearance since our request to Senator Abdnor for an opportunity to appear at this hearing has been denied. However, we have been assured that if he allows further discussion of this issue in subsequent hearing sessions we will be given an opportunity to testify. Consequently, we request that as you offer our statement for the record you also request that the Commission still be granted an opportunity to appear at a later hearing as a key agency with technical expertise on the recommendations and strategies in the Master Plan.

Thank you very much for responding to our requests and for conferring with us regularly on this long-awaited legislation. We wish you well in your leading role for the betterment of the Upper Mississippi River System.

Very truly yours,

MINNESOTA-WISCONSIN BOUNDARY AREA COMMISSION

James M. Harrison

James M. Harrison, Executive Director

Enclosures

JMH:rmh

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POSITION STATEMENT ON IMPLEMENTATION OF THE COMPREHENSIVE MASTER PLAN FOR THE MANAGEMENT OF THE UPPER MISSISSIPPI RIVER SYSTEM

Mr. Chairman and Members of the Subcommittee; I am speaking today on behalf of the Minnesota-Wisconsin Boundary Area Commission headquartered in Hudson, Wisconsin.

Ours is the special interstate commission comprised of five citizens from each State and sponsored by the two State governments under interstate compact, gubernatorial appointments and legislative appropriations. Its job is to promote intergovernmental cooperation, conduct special studies and investigations, and assist the States in the many Federal activities on the two major, nationally-significant rivers forming the interstate border for our two States - the Mississippi and Saint Croix Rivers. We cover 138 miles of the Mississippi River and 127 miles of the Saint Croix.

Just by way of background, the Boundary Area Commission was instrumental in fostering the highly successful GREAT River Study on the Upper Mississippi River involving six Federal agencies and five States from 1974 until now. It was also the lead organization for designation of the popular Lower St. Croix National Scenic Riverway, and now serves as the official management coordination agency for that project, assisting the two States and the National Park Service in serving nearly 1.5 million visitors per year for all kinds of outdoor recreation activities. In fact, ever since it was created by the two State Legislatures in 1965, the Commission has been a focal point of strategic planning and interagency collaboration for the broadest possible public interest in both the Mississippi and the Saint Croix.

We followed the hearings and provided direct testimony on behalf of our sponsor States in the 1976 and 1977 Congressional deliberations on the comprehensive Master Plan legislation, and we have provided direct input to the Master Plan development process from the moment President Carter signed the bill in Minneapolis on October 21, 1978. Congress has had the Master Plan in its possession since January of 1982 when it was submitted by the Upper Mississippi River Basin Commission.

The purpose of our participation in this hearing process is three-fold: (1) to present a clear picture of the Upper Mississippi River System in all of its variations over 1,300 river miles, with emphasis on our more diverse upstream area, so you can see first hand that it is worth the kind of investment recommended in the Master Plan; (2) to assist our States in presenting their case for Congressional and Administration recognition of the multiple-use nature and management needs on our segment of the system as a pre-requisite to any policy decisions for modifying the rivers further; and (3) to provide objective, knowledgeable commentary on the Master Plan from the perspective of an informed public in our region to convince you that the time has now come to approve the Master Plan and all of its interrelated recommendations. While we are speaking primarily from our own bi-State, upstream vantage point, we have become quite familiar with and are interested in the entire system as an observer member of the Basin Commission's Great River Study Committee. Our veteran Executive Director attended all of the public hearings throughout the five-state area and our Commissioners have extensive backgrounds in river affairs.

First and foremost, we want you to get a vivid picture of what the Upper Mississippi River System is really like. Beginning up in our end of the river and extending over 500 miles to near St. Louis you have the only inland river in the nation officially designated by Acts of Congress as both a key segment of the federal inland waterway navigation system and as a major national wildlife refuge zone. We believe that once you can visualize this magnificent combination of resources and the differences between the far-flung river segments, you will be better able to make the right decisions concerning its future use, development and protection in the national, regional and local interest. As you will see by our picture story, there is an abundance of rich habitat for fish and wildlife and a tremendous array of water-oriented recreation sites comprising an important part of our vital tourism and recreation economy in our upstream region of the river system. This is an unusual situation compared to other rivers and, indeed, to other segments of this same river system. Certainly, we too believe in orderly, progressive economic development of our resources. Minnesota and Wisconsin are both high-production agricultural States; we need the river system as one of the primary, low-cost outlets for shipment of bulk commodities produced in our region — corn, soybeans, wheat and other processed farm products. On the input side of the ledger, both Minnesota and Wisconsin are energy-dependent States; we need the coal and petroleum products which are brought in by river, by rail, by pipeline, and through Great Lakes ports.

Most people have seen at least some part of the Upper Mississippi, the Illinois Waterway or one of the navigable tributaries, but perhaps few have had the whole [illegible] tour. So, now we present our visual assessment of the Upper Mississippi River System:

10-15 minute slide presentation depicting all uses and areas of the Upper Mississippi River System

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Mr. Chairman and Members of the Subcommittee, we are trying to sell you a concept — the same concept that we in the upper basin share as a way of life for our major rivers. That concept is to "use and manage the Upper Mississippi River System in our jurisdiction for all that it's worth." That simply means we strive to develop, use and still protect the river resources for fish and wildlife and navigation and outdoor recreation and scenic enjoyment. We also want to impress upon you that these uses need not be mutually exclusive nor competitive. We would like nothing more than to persuade you to subscribe and commit to that concept as you decide the future of this great river system, and to translate that commitment into actions supporting all the values and uses characteristic of much of the system, especially in our area.

While we have been concerned about the lack of some very pertinent information to formulate a truly comprehensive, detailed river system Master Plan, we see at least three good reasons why Congress should depend on and approve the Comprehensive Master Plan in its entirety, as submitted January 1, 1982:

(1) It was prepared in response to specific issues raised by Congress itself under statutory directive; therefore, it is a plan that was required by and now belongs to the Congress.

(2) It is a product of multi-disciplinary, intergovernmental work groups having the needed expertise in multi-objective river planning; thus, it should be recognized as the most authoritative supporting document for long-term commitment to the river system as a national, multi-purpose resource.

(3) Even though the timetable for production of the Master Plan was very short, requiring re-scoping of most field studies and simulation models, many of the key findings and recommendations are based on valid, completed studies, such as the

excellent, Congressionally-authorized GREAT River Study on the entire Upper Mississippi from 1974 to the present time; therefore, Congress should feel confident of the basis for acting on the Master Plan as the proper strategy for future use, development and protection of the Upper Mississippi River System.

Given the experience of earlier hearings on Lock and Dam 26 and the Master Plan, we expect that Congress will receive an abundance of testimony on the navigation/transportation problems and needs on our river system. Our legislative Interstate Compact directs us to work primarily on "conservation efforts" with our States and political subdivisions. Therefore, we will be commenting primarily on those elements of the river system and the Master Plan wherein we have the most expertise and responsibility. Other witnesses, including highly-respected representatives from our two States, will no doubt be speaking on the particulars of the rivers as a navigation system.

What we are really calling for is national commitment to a truly comprehensive plan for two vital, national purposes: waterborne transportation of important commodities, and public stewardship and enjoyment of a vast but delicate ecosystem. In our area, and probably in many other areas, there is still a diversity of settings and habitats to support this challenging goal.

We have concluded, after long deliberation and evaluation, that the integrity of the Upper Mississippi River System as a nationally-significant, multi-purpose resource will best be preserved and enhanced, as intended in the 1978 Master Plan statute, by linking all of the 12 recommendations of the Master Plan into a common strategy and implementing all of those recommendations. Accordingly, we strongly advocate and will actively promote Congressional approval of the Master Plan and authorization and funding of all recommendations requiring Congressional action.

The Master Plan recommendations and background information supporting them are, of course, available for all to read. However, we would simply like to highlight some features which are of special interest and concern to our jurisdiction and responsibility:

SECOND LOCK

At this point we would advise that we are in agreement with the recommendation that Congress immediately authorize the engineering, design and construction of a second chamber, 600 feet in length, at Lock and Dam 26 (Replacement) near Alton, Illinois. We accept the assumptions and projections in the Master Plan with respect to future traffic as being reasonable enough to certify to the economic need for the second lock, which was the principal criterion set forth by Congress for judgement on the need issue, although environmental impact mitigation costs have not yet been included. Obviously, we all want the most efficient, dependable transportation system we can get.

We would strongly emphasize, however, that Congress also insisted on a "specific analysis on the immediate and systemic environmental effects of any second lock at Alton, Illinois" as well as a plan to "provide for the mitigation of any adverse impact on, and enhancement of such resources" (P. L. 95-502, Sec. 101(e)). We firmly believe that in correlating the legislative actions for the multi-purpose Upper Mississippi River System, it is imperative that the natural resources of the system--the aquatic habitat, recreational and scenic attractions, the backwaters, sloughs and lakes as well as the main channel--be addressed by the Congress as nationally important in their own right, and not just as a side issue in a navigation/transportation system. By doing so, it is reasonable to authorize and appropriate the kind of funds recommended in the Master Plan for Long-Term Resource Monitoring, Habitat Rehabilitation and Enhancement, Recreational Improvements, Erosion-Sedimentation Control and so forth. By establishing a clear national commitment to protection and improvement of the natural qualities of the river system, it is also reasonable to segregate the program costs so that the total burden does not fall on river shippers through user charges, for example.

LONG-TERM RESOURCE MONITORING

One of the main reasons it was necessary to go through the Master Plan process instead of authorizing two locks at Lock and Dam 26 in 1978 was the lack of information on the environmental impact of providing facilities for substantial commercial barge traffic increases. In response to the Congressional mandate we cited earlier concerning the analysis of environmental impacts of a second lock, the Master Plan offers quite a lot of useful information on physical impacts caused by increased levels of navigation, but very little data to evaluate critical biological impacts. This shortcoming dramatizes the need to immediately initiate the recommended Long-Term Resource Monitoring Program (pp. 122-124, 164, and Technical Report F, Vols. I & II). Considering the fact that a second lock will not be operational until about 1990, there is still time to identify expected biological impacts and arrange for mitigation and protection of vulnerable areas before the projected jump in barge traffic. As the Master Plan Environmental Report points out, collection of this data would have to be done over a period of years to be valid (Technical Report D). In any event, if the monitoring is initiated early there should be no need to delay the second lock decision; and if the monitoring is continued as a bona fide long-term program, it will allow for orderly, timely evaluation of other river system projects likely to be proposed in the future without having to mount a crash program of studies and reports. This program will, therefore, save everyone time and money in the long run when planning future river developments.

HABITAT REHABILITATION AND ENHANCEMENT -

Authorization and implementation of the recommended Habitat Rehabilitation and Enhancement Program, along with the Long Term Resource Monitoring Program (Pages 113-124, 162-164 and Technical Reports D & E). Immediate action on these programs will allow for the reasonable development and expansion of navigation without destoying the valuable environment which supports the other legitimate national purposes in a unique combination of public policies found nowhere else on such a large scale on the inland river system. These measures are keys to gaining broad public acceptance in our upstream area for sizeable increases in the commercial navigation activity provided by proposed navigation system expansion.

COMPUTERIZED SYSTEM ANALYSIS

Initiation of the recommended Computerized Inventory and Analysis Program (Pages 147-152, 164-165 and Technical Report J). This well-researched proposal provides the best tool for river system data storage and retrieval and for assessing any proposed system manipulation effects through the Long Term Resource Monitoring Program.

It is important to note the interrelationship of the three environmental program authorizations listed above. Information or results from each program will be utilized in the implementation of the others. These interrelationships should be recognized in that the deletion or abbreviation of one program will adversely affect another and the basic utility of these efforts could be jeopardized.

EROSION AND SEDIMENTATION CONTROL

Reduction of erosion rates to tolerable levels to help preserve the integrity of all resource values on the Upper Mississippi River System (pages 77-82, 161). The Master Plan, drawing on the extensive interagency analysis led by the U.S. Soil Conservation Service in the GREAT River Study, accurately characterizes excessive sedimentation from upland and streambank erosion as "the most pervasive and damaging problem for the Upper Mississippi River System as a diverse, vital natural ecosystem." Most fertile backwaters are predicted to be shallow marshes, mudflats or dry land within 50 to 100 years if nothing more is done to reduce soil losses in the watershed.

RECREATIONAL IMPROVEMENTS

Authorization and implementation of a program of recreational projects and an assessment of the economic benefits generated by recreational activities in the Upper Mississippi River System (Page 165). The GREAT I and GREAT II studies listed numerous unmet recreational needs and improvements on the river system. The national interest in recreation development has been studied but not implemented by federal agencies. It cannot be left to just state and local sponsors. We also believe the Master Plan leaves out significant information on the value of the river system as a recreational resource of national importance. Cursory estimates by experienced river managers indicate an annual value of over $1 billion for all outdoor, river-corridor-related recreational activities in the study area. The certification of recreational values is needed to properly weigh the impact and benefits of any new river changes or investments.

DREDGED MATERIAL DISPOSAL AND BENEFICIAL USE

We especially recommend that Congress officially recognize the GREAT Study Channel Maintenance Plans and Beneficial Use concepts as the appropriate operation and maintenance strategies for our part of the river system (pp.131-141, 167-168 and Technical Report I). Having been one of the initiators and facilitators of the successful GREAT River Studies from 1974 through 1980, our Commission can assure the Congress that this is the best plan for the kind of diverse, multi-purpose river we have. The Corps has agreed to it and is beginning to implement it, in an administrative mode, but it deserves Congressional sanction and agreement to ensure its continued success.

In conclusion, we would like to recommend that the subcommittee also use the GREAT River Study Reports along with the Master Plan documents as technical support for many of the recommendations we are promoting. The Master Plan reinforces the GREAT Study conclusion that the worst problem is sedimentation from excessive upland and streambank erosion in the watershed. The Master Plan adds weight to the sobering GREAT Study findings that the tremendous backwater area resources, a national treasury of fish, wildlife, recreational, wilderness and scenic grandeur, need and deserve rehabilitation and enhancement in key areas. We can testify with authority that tremendous progress has been made in cementing positive, productive relationships between Federal agencies and States in the last decade on our upper end of the river. It has been most gratifying to observe the excellent way that the Corps of Engineers and Fish and Wildlife Service have co-chaired a major effort like the GREAT River Study. It did happen in the St. Paul Corps District in our area from 1974 through 1980. This first comprehensive look at all parameters of the river and the spirit of federal state cooperation is a model for the needed on-going work!

We hope that the "NEPA exemption" recommendation in the plan doesn't get so much attention that it detracts from the other recommendations which have merit and ought to be acted upon. Again, your early action on the Long-Term Resource Monitoring Program and Habitat Rehabilitation and Enhancement would eliminate the NEPA question.

We will continue to promote intergovernmental harmony and efficiency in our area whether or not the Master Plan recommendations are adopted. The stage is already set and the actors are already prepared. In effect, the script has already been written and the dress rehearsal has been held. What we need now is a curtain-raiser and a producer. The Congress of the United States is the proper body to serve these functions. We only hope and pray that as you deliberate on the several issues involved in this magnificent river system you will keep uppermost in your minds that this is truly a multi-purpose resource, and we can afford as a Nation to keep it that way as long as we continue to assess costs and benefits over the full range of values.

We do believe we are fairly representing the predominant views of the citizens of our headwaters States by expressing an extra measure of concern for the ecological integrity of our part of the river system. We ask that you please not try to standardize the river system from one end to the other, nor decide its future based upon the lowest common denominator of benefits and costs.

As you try to envision the national interest in this unique, Congressionally-recognized multi-purpose river, we would point out that a great deal of money has been invested in improving the resource for barge transportation, but relatively little has been spent directly to improve and protect the vast natural river environment. The basic information on the broad extent and alarming rate of environmental degradation is now available, and the time has come to act on the recommendations to correct these problems and preserve the national benefits.

Thank you for your courtesy and attention to our presentation today. We would be happy to respond to questions or provide additional information as best we can.

Upper
Mississippi River
Basin Association
ILLINOIS, IOWA, MINNESOTA, MISSOURI, WISCONSIN

July 14, 1983

The Honorable Rudy Boschwitz
506 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Boschwitz:

On July 18, 1983 the Water Resources Subcommittee of the Senate Environment and Public Works Committee will be conducting a hearing on inland waterways in preparation for an omnibus water bill. Such a hearing provides an appropriate opportunity for the Subcommittee to consider the recommendations of the Congressionally authorized Master Plan prepared by the Upper Mississippi River Basin Commission.

We understand that you intend to testify at that hearing on your bill, the "Upper Mississippi River System Management Act" S. 449. As you know, our Association strongly supports your efforts to foster a multi-purpose management approach for the Upper Mississippi River System. Since we will be unable to testify on July 18, we would greatly appreciate it if you would enter our statement on S. 449 into the hearing record at that time.

The Senate briefing which you hosted in April was certainly an opportunity for our Association to highlight the importance of the Master Plan and reinforce the need for Congressional action during this session. We view the July 18 hearing as another very important vehicle for communicating the merits of the Master Plan recommendations and the translation of that plan into legislation such as S. 449. Your continuing efforts to insure that these issues are given full consideration in the development of an omnibus water bill are greatly appreciated.

Sincerely.

Holly Stoerker

Holly Stoerker
Executive Director

HS:mle
Enclosure

ROOM 210
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PHONE: 612-854-1932

Statement of the
Upper Mississippi River Basin Association
on S. 449

The Upper Mississippi River Basin Association provides a cooperative forum for water resources management in the Upper Mississippi River region. The five states of Illinois, Iowa, Minnesota, Missouri, and Wisconsin have formed this Association to discuss mutual concerns and coordinate water resource programs. S. 449 is a bill which holds particular interest for us because it embodies the recommendations of the Comprehensive Master Plan for the Management of the Upper Mississippi River System.

The Master Plan was submitted to Congress on January 1, 1982. It was prepared by the Upper Mississippi River Basin Commission at the direction of Congress in P.L. 95-502. After that Commission was terminated by Executive Order, this Association was formed. The Association has assumed custodial responsibility for the Master Plan including the distribution of Master Plan documents and the maintenance of all the former Commission's documentation and data from the planning process. Furthermore, this Association is committed to advancing the implementation of all the recommendations contained in that Plan.

The Association has watched with great interest Congressional response to the Master Plan after it was transmitted to Congress over a year ago. We have provided assistance whenever possible in understanding the studies undertaken as part of that planning effort, the importance of the recommendations resulting from those studies, and the overall value of a balanced multi-purpose management approach for the Upper Missisisppi River System.

S. 449 introduced by Senator Boschwitz and a number of other Senators from our five states is based largely on the Master Plan. We believe that this is a particularly important bill for the future of this river system. It not only authorizes many of the programs recommended in the Master Plan, but it is also outstanding in a number of other respects:

1) S. 449 combines into one bill programs to enhance and protect critical habitat areas, programs to monitor the quality and quantity of our important environmental resources, projects to increase recreational opportunities, and a critical navigation project to meet the transportation needs of the Upper Midwest. By virtue of the fact that they are combined in one important piece of legislation, it recognizes the multiple purposes and diversity of needs of the Upper Mississippi River System.

This river system historically has had two Congressional mandates. As a nationally significant ecosystem it has been designated as a national wildlife refuge. As a nationally significant commercial transportation system it is managed as a commercial navigation project. The viability of this system requires a commitment to maintain and enhance all aspects. The sponsors of S. 449 have wisely affirmed this multi-purpose management approach by simultaneously and conjunctively providing for navigation, environmental, and recreational development and enhancement.

2) Section 4(a) of S. 449 sets forth Congressional approval of the Master Plan as a guide for future water policy of the Upper Mississippi River System. Congressional approval of the Plan is one of the most important features of this bill enhancing its overall significance.

As provided in Section 101(i) of P.L. 95-502, Congressional approval of the Master Plan is a necessary condition for its implementation. However, the significance of Congressional approval exceeds this legal necessity. Approval of the plan would demonstrate recognition by Congress of what the Association is committed to and the Commission stressed in the Master Plan -- a balanced approach to multi-purpose system management. Congressional approval of the Master Plan along with the national policy statements contained in Section 2 would provide one of the strongest and most important expressions of national commitment to this major national multi-purpose resource.

In addition, Congressional approval of the Plan would provide a mandate for both Federal and state actions to initiate programs and strategies that the Plan recommends but which do not necessitate specific Congressional authorization. With such a Congressional mandate, the appropriate agencies may begin planning and building the necessary resources within their budgets to proceed with implementation of programs within their existing authority.

3) The legislative package embodied in S. 449 recognizes the dual nature of the river system's needs. There are immediate actions which are necessary as well as long-term planning needs. The immediate needs are obvious -- projected commercial navigation growth beyond 1990 cannot be met by the present system and environmental degradation is seriously threatening precious natural resources. However, the system is dynamic and the complex physical, chemical, and biological relationships are still not well understood. Although the studies conducted as part of the Master Plan made great strides in the area of systemic analysis, long-term investment decisions would be tenuous. In addition to the immediate decisions that must be made, other major decisions will confront us in future years. The ability to respond to future needs with sound judgment depends on our ability to monitor and understand the economic and environmental forces shaping the future of this river system. Thus it is appropriate that the programs authorized in S. 449 include both immediate actions and investments in future understanding.

4) All the programs authorized in S. 449, with the exception of construction of a second lock at Alton, provide for involvement of the five States in this region. The Association firmly believes that a substantial and meaningful role for the states is critical to the success of these programs. The original Master Plan was the result of a unique combination of federal, state, and public judgment. Our Association is committed to this type of cooperative effort in management decisions affecting the Upper Mississippi River System and we offer whatever assistance we can in the future implementation of the Master Plan. We believe strongly in a management partnership which recognizes the federal interests in this river system as well as the state interests. We applaud the authors of S. 449 for building a strong State role in the implementation of these programs, but we recognize that the Governor of each state should ultimately determine which agency or combination of agencies will participate in the authorized programs.

The Upper Mississippi River Basin Association strongly supports the authors of S. 449 in their efforts in implementing Master Plan programs through S. 449. We will not elaborate on the merits of the individual programs contained in this bill. The Master Plan and its thirteen companion technical reports speak more eloquently and authoritatively to those needs. Suffice it to say that the economic, environmental, and recreatonal programs in this bill are essential for both the immediate and long-term needs of the river system.

S. 449 has widespread bipartisan Congressional support. Nine of the ten Senators from our five states have co-sponsored this legislation. We believe it speaks well for this approach that there is such unity of purpose among the leaders who understand the problems and needs of our region so well. We would like to take this opportunity to commend Senator Boschwitz and his colleagues for their dedication to the interests of their respective states and this river basin in putting forth this piece of legislation. Legislation such as S. 449 is critically important for the environmental integrity and economic viability of the Upper Mississippi River System.

National Council of Farmer Cooperatives
1800 MASSACHUSETTS AVENUE, N.W. • WASHINGTON, D.C. 20036 • TELEPHONE (202) 659-1525

March 15, 1983

Honorable Rudy Boschwitz
United States Senate
506 Senate Hart Building
Washington, D.C. 20510

RE: S. 449, the Upper Mississippi River System Management Act.

Dear Senator Boschwitz:

The National Council of Farmer Cooperatives commends you and your co-sponsors on the introduction of S. 449, the Upper Mississippi River System Management Act.

As agricultural shippers we are particularly interested in section 6, which authorizes the construction of a second lock at locks and dam 26 on the Mississippi River, and section 10, which frees this project from collateral attack under the National Environmental Policy Act of 1969.

But, of course, the bill does more. It authorizes the Secretary of Interior to take positive actions to enhance the environmental and recreational potential of the Upper Mississippi. It should serve as an excellent vehicle to bring those parties with a real interest in preserving and improving the River together.

The National Council of Famer Cooperatives endorses S. 449 and stands ready to work with you and your co-sponsors to secure its enactment.

Sincerely,

Donald A. Frederick

Donald A. Frederick
Associate General Counsel

DAF/mk

cc: Senator Danforth, Senator Durenberger, Senator Eagleton, Senator Percy, Senator Jepsen, Senator Grassley, Senator Huddleston.

"AMERICA'S FARMER OWNED BUSINESSES"

American Farm Bureau Federation

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SUITE 800
WASHINGTON [illegible]
AREA CODE 202 484 2222

March 11, 1983

Honorable Rudy Boschwitz
United States Senate
Washington, DC 20510

Dear ~~Senator Boschwitz~~:

Many thanks for your letter of March 7 enclosing a copy of S. 449, the Upper Mississippi River Management Act.

The American Farm Bureau Federation supports the construction of an additional auxiliary lock in the current Lock and Dam 26 project. We also support legislation to study the establishment of barge traffic on the upper Mississippi and Missouri Rivers. Your proposal appears to meet both these objectives and therefore, we are pleased to endorse S. 449 and hope it will receive favorable consideration by the Congress.

It was good seeing you at the Minnesota Farm Bureau breakfast last week. We very much appreciated your taking the time from your heavy schedule to attend and participate.

With kind regards,

Sincerely

George L. Berg, Jr.
Assistant Director
National Affairs Division

lh

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PRESIDENT
DeVon R. Woodland
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VICE-PRESIDENT
Robert W. Arndt
Soho, Minnesota

DIRECTOR,
WASHINGTON OFFICE
Charles L. Frazier

March 21, 1983

Honorable Rudy Boschwitz
United States Senate
Washington, DC 20510

Dear Rudy:

This responds to your letter of March 7, 1983, transmitting S. 449 and asking for our comment.

We were involved, along with a number of other farm organizations, in support of the 1978 Act authorizing the installation of a new dam and one new lock at Alton, Illinois.

Your bill has many desirable features. Without pretending complete expertise in this area, we are happy to endorse action along the lines indicated in S. 449. We are pleased that you propose a reasonable compromise with the supporters of the Master Plan by authorizing some projects to cope with environmental problems. Our members generally are quite willing to bear their share of the expense necessary to protect the environment, but there must be a reasonable balance in the commitment of funds over a given period of time.

It also is encouraging to note that Section 10 recognizes the extensive work already done pursuant to the National Environmental Policy Act of 1969 and exempts a second look at Lock and Dam 26 from the time-consuming and expensive requirements of another environmental impact statement.

Considering the time required to engineer and construct a second lock at Alton, we will support such a program now. There can be little doubt as to its need in the future.

With warm regards,

Sincerely,

Chuck F.

Charles L. Frazier
Director
Washington Office

national grange

1616 H STREET, N.W. WASHINGTON, D.C. 20006 (202) 628-3507

Robert M. Frederick, Legislative Director

March 14, 1983

Honorable Rudy Boschwitz
Committee on Agriculture, Nutrition
and Forestry
2107 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Boschwitz:

Thank you for sending the National Grange a copy of S.449, a bill to authorize the construction of a second lock on the Mississippi River in the vicinity of Alton, Illinois. We appreciate this early opportunity to comment on the proposed legislation.

The National Grange is in full support of the construction of a second lock at Lock and Dam 26 on the Mississippi River at Alton, Illinois. A second lock 110 feet by 600 feet is needed at Lock and Dam 26 if the full potential of the Upper Mississippi River System is to be fully utilized in transporting agricultural imports and the marketing of agricultural production.

The National Grange has believed that the other benefits of lock and dams on our inland waterway transportation system have not been fully publicized; therefore, the general public has not had an appreciation of their contribution to the improvement in the wildlife and aquatic habitat, recreational improvements, nor their contributions to flood control and water management. In the past, these benefits have been taken for granted by the users of the facilities improved by the construction of locks and dams and they do not consider the cost. S.449 and the Master Plan recognized these benefits and places a cost on their value.

When construction, operation and maintenance of the inland waterway system were financed through appropriations from the general treasury, the allocation of the costs to the other beneficiaries was not important. But now that user fees are in place as a result of the first new lock and dam at Lock and Dam 26, it becomes important that all beneficiaries of such facilities pay their fair share.

Section 11 makes a clear distinction between the cost attributable to navigation and authorizations contained in the bill for other provisions of the Master Plan. We would urge that if user fees become an issue in the authorization of another lock at Lock and Dam 26, that the same clear distinction remains in the cost allocation. Waterway users should not pay for other beneficiaries. If a true allocation of the costs are not contained in the legislation, the National Grange would not be in support of the bill.

Sincerely,

Robert M. Frederick

Robert M. Frederick
Legislative Director

RMF:khv

NATIONAL
COAL
ASSOCIATION

COAL

CARL E. BAGGE
President
(202) 463-2647

February 8, 1983

Honorable Rudy Boschwitz
United States Senate
237 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Boschwitz:

I just wanted to thank you for taking the lead in introducing S.449, the "Upper Mississippi River Management Act".

As you know, coal is a major component of the traffic carried on our inland waterways, therefore the coal industry is extremely interested in improvements needed at several locks and dams, especially the second chamber at Alton, Illinois. If we can be of service to you in your efforts, please call me or Susan Carver of my Congressional Affairs staff.

Sincerely,

Carl

Carl E. Bagge

1130 Seventeenth Street, N.W.
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(202) 463-2625

United States
Department of
Agriculture

Office of
Transportation

Washington, D.C.
20250

Honorable Rudy Boschwitz
United States Senate
Washington, D.C. 20510

Dear Senator Boschwitz:

This is in response to your letter of March 7, 1983, requesting review and comments on S.449.

In order to have a strong national economy, a strong farm economy, and a favorable balance of trade, it is necessary that we have efficient, low cost transportation that strengthens our competitive position in world agricultural trade. The competitive balance that barge transportation offers to inland transportation is essential to such needs.

The navigational lock at Alton, Illinois, represents the beginning of the narrow part of the grain traffic funnel formed by the Mississippi River System leading to Gulf Coast export elevators. In the 1980 shipping season, the average delay at this facility was 20 hours. A weakened demand, caused by the world economic problems, has reduced this delay in the past 2 years. However, as the world economy improves, a single new lock at Alton will not accommodate the probable growth in traffic volumes. Between 1975 and 1981, barge grain loadings in the Mississippi River System increased by 50 percent from 1.2 billion bushels to 1.8 billion bushels. The potential for future growth in barge movements should not be jeopardized by allowing the funnel to further constrict river grain flows.

In authorizing a second chamber at Lock and Dam 26, S.449 would enhance barge movements and benefit agriculture in your region. USDA is working with other executive agencies on waterway issues at the present time, however, and cannot take a position on S.449. I appreciate your interest in this and other matters on behalf of agriculture and look forward to working with the Congress on S.449 in the future.

Sincerely,

Martin F. Fitzpatrick, Jr.

Martin F. Fitzpatrick, Jr.
Director

STATEMENT
OF
WILLIAM H. DEMPSEY
PRESIDENT, ASSOCIATION OF AMERICAN RAILROADS

ON

INLAND WATERWAY POLICY AND PROJECTS

HEARING BEFORE THE
UNITED STATES SENATE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
SUBCOMMITTEE ON WATER RESOURCES

JULY 18, 1983

My name is William H. Dempsey and I am President of the Association of American Railroads. Our members operate 94 percent of the total railroad mileage in the United States, employ 92 percent of the nation's railroad workers, and handle 98 percent of the nation's railroad freight traffic.

I would like to submit for the record the position of the freight railroad industry regarding federal water projects.

Both fairness and economic efficiency indicate the need for waterway user charges to recover government expenditures on waterways. The navigation related costs of new capital investment and the costs of operations and maintenance should be paid by the barge operations that benefit from waterway expenditures. In the absence of full cost recovery user charges, waterway development expenditures represent a subsidy to rail-competitive barge operations. Under these circumstances, railroads must continue to oppose waterway development projects.

America's freight railroads have a legitimate self-interest in public policy affecting inland navigation projects. Railroads compete vigorously with the nation's inland commercial barge lines for a substantial portion of freight traffic. To the extent inland navigation projects are financed by the general taxpayer, railroads -- which must themselves build, operate, maintain, and pay taxes on their rail rights-of-way -- can suffer significant competitive disadvantages. And rail shippers who must compete in the marketplace with barge shippers are also adversely impacted.

Of course, certain areas and groups of shippers benefit when the federal government provides an improved navigation channel or larger lock facilities to reduce commercial barge transport time. Geography, however, dictates where inland navigation projects will be concentrated. And unlike many public works projects which can be alternated among various regions of the nation, most regions can never hope to be the recipient of a navigation project. Thus, such regional benefits are consistently at the expense of the same non-benefiting regions and their taxpayers who must still pay for the facility -- as well as the shippers in those regions who cannot take advantage of the facility but must compete with their subsidized counterparts in selling their products.

Unrecompensed public works projects not only provide unfair benefits for a select few, but also result in unsound public investments. As beneficiaries of waterway projects are not presently responsible for anything approaching the full costs, neither are they responsible for selection of "efficient" projects. Overinvestment in uneconomic projects often results.

We believe that transportation rates should be based upon the true costs of providing a service. When the general taxpayer rather than the direct beneficiary of a publicly provided facility pays for that project, market signals are distorted and economic efficiency suffers.

Let me now address five specific issues which are of particular importance if reform of federal water policy with respect to navigation projects is to be instituted. These issues are: 1) the rationale for full cost recovery; 2) the inadequacy of the current fuel tax; 3) the need for prompt action to implement full cost recovery; 4) the inadequacy of planning procedures for water projects, and 5) the implications of economic impact analysis.

I. Full Cost Recovery

Waterway user charges yielding full cost recovery would produce important economic benefits.* Funds now used to subsidize private, profit-making navigation interests could be utilized for public purposes; e.g., lowering the deficit.

Significant efficiency improvements would be realized among the other transportation modes as well. Adequate waterway user charges would lead to a more efficient market share distribution among competing carriers; they would discourage inefficient investments -- often encouraged on the basis of speculation -- in a government-funded transportation infrastructure; and they would accelerate the funding of truly worthwhile government transportation projects by making available a ready source of funds from beneficiaries willing to pay the costs.

Inefficiencies attributable to government overinvestment in transportation facilities would be eliminated, especially in the shallow-draft navigation program. Because user charge rates are low and not linked to the level of government expenditure, barge operators and regional interests encourage overspending on waterways. The wasted money is provided largely by the nation's taxpayers, rather than the direct beneficiaries.

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*This statement assumes that the allocation of waterway costs contained in the Administration's 1982 proposal (Amendment 1342 to S. 810) is basically correct. Navigation interests should not be required to pay for projects not directly related to navigation benefits; but neither should non-navigation interests be required to pay costs incurred for the benefit of navigation.

An adequate user charge system would curtail this waste. If the barge operators and barge shippers paid for the facilities and services they used, they would actively discourage the government from investing in projects where costs exceed benefits. Conversely where benefits do exceed the costs, beneficiaries should be willing to pay those costs.

Several weeks ago, Assistant Secretary of the Army William R. Gianelli released the Administration's most recent inland waterway user charge proposal. The freight railroad industry regrets that this latest proposal retreats from the Administration's 100 percent recovery level a year ago to a level of only 70 percent (on both O&M and construction). We are pleased, nonetheless, that Secretary Gianelli has not called for a softening on the principle of full cost recovery. Instead, the 70 percent level has been presented to the Congress as an attempt to successfully pass urgently needed legislation. If it accomplishes that objective in timely fashion, it would clearly provide an improvement over the current -- almost negligible -- user charge situation.

II. Inadequacies of Current User Charges

Congress made a start at putting the inland commercial barge industry on a self-financing basis when it enacted a waterway user charge effective in October 1980. But that charge, in the form of a fuel tax even when it reaches its maximum level (10¢ per gallon) in a few more years -- will never raise more than about 10 percent of the annual federal expenditures being made on behalf of commercial navigation interests.

During FY 82, the 6 cents per gallon fuel tax raised approximately $30 million. In contrast, Army Corps of Engineers expenditures for inland waterway navigation O&M and construction exceeded $650 million.

The current waterway fuel tax, by recovering significantly less than full public expenditures on behalf of beneficiaries, does not test user willingness to pay for government provided waterway services and facilities; nor does it eliminate cross-subsidies from the nation's transportation system. Two of the most important prospective benefits of adequate waterway user charges are thus lost.

The current system of user charges is deficient not only in the amount of cost coverage, it is also inappropriate in form -- a weakness that will be more evident as cost coverage is increased. For example, a fuel tax high enough to achieve full cost recovery would create enormous incentives to evade the fuel tax by using untaxed fuels. Only careful monitoring of waterway movements combined with meticulous auditing could control tax evasion.

User charge enforcement efforts need not be complex. For instance, a ton-mile charge of the kind proposed by the Administration is much simpler. Proper enforcement of a fuel tax would increase rather than lessen administrative costs, because the fuel tax requires monitoring of fuel consumed in unloaded travel; it also requires careful distinction between fuel used for propulsion and fuel consumed for other purposes on board the towboat (e.g. generating electricity). In contrast, the ton-mile charge is consistent with existing record keeping and reporting and it applies only to loaded mileage.

A further advantage the ton-mile charge retains over the fuel tax is the ability to vary it by river segment. While we take no position on the question of whether user charges should be levied on a segment-specific versus a system-average basis, it is important to point out that the ton-mile charge can be used for either purpose. But the fuel tax, which cannot be varied conveniently by segment, is, therefore, limited to the system-average approach. The superior flexibility of the ton-mile charge is an additional virtue.

In another sense, too, the ton-mile charge is more versatile. It can be varied without new legislation.* In other words, it is a user charge, not an excise tax. The distinction is of vital importance. Only user charges can be easily adjusted to changing levels of federal expenditure and waterway traffic volume. A full cost recovery system that automatically adjusts to recover the required user charge revenue provides the necessary incentive for direct beneficiaries to oppose inefficient waterway expenditures rather than encourage them as the present system does.

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*Lockage fees also have this advantage. The "ideal" user charge system probably involves both ton-mile charges and some form of lockage fee.

III. The Need for Prompt Action

From the perspective of both equity and efficiency, it is desirable that a user charge program achieve the level of full cost recovery. The proponents of more adequate waterway user charges do not propose recovering the barge industry's past subsidies, even though these expenditures will continue to provide benefits for decades to come. There is, however, an urgent need to implement full cost recovery for future projects.

Until full cost recovery is achieved, spending on navigation projects will continue to create much additional waste and inequity. On February 10, 1982, before the Senate Water Resources Subcommittee, Secretary of Transportation Drew Lewis defined future capital expenditures on the inland system as all those expenditures beginning October 1, 1982. Under that proposal, all Army Corps of Engineers FY 83 capital expenditures for the inland waterway system would have been subject to full recovery. But there was no waterway user charge legislation produced last year. As a result, approximately $186 million in FY 83 capital costs for the Tennessee-Tombigbee as well as about $68 million (FY 83) on Replacement Lock and Dam 26 will probably be federally funded free of user charges. Many other major examples could also be cited.

The policy of subjecting only future expenditures to full cost recovery is a defensible national policy, if that future is now. However, the effectiveness of such a policy could rapidly be eroded by a softening of the federal position on this issue. For example, during the 97th Congress the Administration proposed recovering -- in addition to 100% of O&M -- 100% of all future capital expenditures. The most recent

Administration proposal (embodied in S. 1554) retreats from that position and instead proposes recovering only capital funding initiated after September 1983, in effect grandfathering the projects already underway.

We understand that the Administration proposal is an attempt to fashion a workable political compromise. For this reason cost recovery levels have been reduced and the range of expenditures subject to recovery has been restricted. The freight railroads, nonetheless, must acknowledge their concern that such efforts to accommodate barge industry resistance to higher user charges could soon rob cost recovery policies of their contribution to improved equity and efficiency. In short, recovery of all future commercial navigation expenditures has been the worthwhile goal of the Administration; we urge timely achievement of that goal.

IV. Deficiencies in Project Evaluation

Current procedures for evaluating waterway investments are defective. An independent project review process for proposals of the Corps of Engineers has not been established. Further, the new guidelines of the Water Resources Council no longer require consideration of non-structural alternatives to water resource construction projects. Non-structural alternatives permit reduction of lock congestion, for example, at significantly less cost than construction of a new facility. Without such independent review and consideration of non-structural alternatives, little may be accomplished in screening unneeded or undesirable water resource projects. The rail industry would urge that the evaluation of waterway projects be improved to correct these deficiencies.

Nonetheless a full cost recovery user charge system remains the best guarantee of sound project evaluation.

On February 7, 1983, before the House Appropriations Subcommittee on Energy and Water Development, Assistant Secretary of the Army William R. Gianelli testified (p. 10): "We believe that if a water project represents a sound investment, an investment whose benefits exceed its costs, the beneficiaries will be able to repay its costs over the life of the project and to organize new sources of financing which do not require outlays from the Federal Government of the magnitude as traditionally relied upon." Concerned with what the lack of cost responsibility has encouraged in the way of unnecessary waterway projects, Gianelli further states (p. 16): "I believe the GAO is right when it suggests that planning funds were wasted studying projects which proved uneconomical and which the local people would not support. The GAO is on target too when it recommends cost sharing for feasibility studies as a necessary step in the right direction."

V. User Charge Impacts

The principal objection raised by opponents to full recovery user charges is that such charges will "harm" certain interests. These claims were elaborately studied in the Department of Transportation's Section 205 Study which found them to be greatly exaggerated. For example, the study found that while some barge traffic would certainly be affected in the short term, under full cost recovery overall barge traffic would still grow at least 50% over 1977 levels by the year 2000 (see Section 205 Study: "Inland Waterway User Taxes and Charges," U.S. DOT (Washington, D.C., February 1982), p. 4). Similarly, it noted that the most severe full cost recovery price impact on a bushel of grain was estimated at about 4¢ to 6¢ per bushel, or about $2.00 per ton. This price impact is small compared to customary market force price swings, which in 1980 alone exceeded $1.00 per bushel for corn and $3.00 per bushel for soybeans (Ibid., p.10).

In his June 8, 1982, testimony before this Subcommittee, Assistant Secretary of the Army William Gianelli again confirmed this conclusion that user charge impacts would not be severe:

> I know this Subcommittee has held hearings on this subject and has received testimony expressing great concern over the adverse impacts on the users of federally-constructed and maintained navigation projects if our legislation should be adopted. However, we don't believe our proposals would have drastic adverse impacts on waterway traffic, shippers or regional growth.

Hence even the most directly-affected interests lose little from the implementation of full cost recovery user charges.

This conclusion is a safe one despite the contentions of a number of other impact studies. One point often ignored by such analyses is that current government expenditures probably overstate the amount of money that would have to be recovered by full cost recovery user charges. If imposed, such user charges would eliminate funding for projects where costs exceed benefits, and program expenditures would fall. User charge revenue targets would decline accordingly.

Admittedly, some groups, particularly the barge operators, would still be left at least somewhat worse off. These losses, however, would be more than offset by gains to unsubsidized shippers and to the public which ultimately bears the cost of these subsidies as consumers or taxpayers. In this fundamental sense, all of the impact studies are misleading. The most important impact of waterway user charges would be to produce a net improvement for the economy.

I would point out that the 97th Congress considered similar arguments in the highway measure just enacted. It determined, after careful study, that the heavy trucks were not paying their full share of the costs attributable to their use of federally assisted roads.

The result of this determination was a major restructuring of highway user fees. While the amounts levied on the large trucks did not approach 100 percent of their responsibility, it went a long way towards that objective. I hope the 98th Congress will do no less in the waterway area.

Conclusion

In these hearings the subcommittee has received expression of support for many specific waterway development projects. My statement does not comment on the merits of these specific proposals. Rather it concentrates on the shortcomings in the inland waterway development program as a whole, and on ways to correct those shortcomings.

There are two major weaknesses in the program. First there are several deficiencies in the procedures and principles for waterway project evaluation. The second, and more important, is the absence of full cost recovery waterway user charges. Enactment of legislation consistent with Amendment 1342 to S. 810 of the 97th Congress, the Administration's prior user charge proposal, would be a major step toward remedying the program's faults.

Again, let me express my appreciation for this opportunity to present our views. These matters are of vital significance to the railroad industry.

STATEMENT OF RICHARD A. WILSON

PRESIDENT AND CHIEF EXECUTIVE OFFCIER

AGRI-TRANS CORPORATION

ST. LOUIS, MISSOURI

ON BEHALF OF INLAND RIVER VALLEY PORT, SHIPPER

AND CARRIER INTERESTS

BEFORE THE SUBCOMMITTEE ON WATER RESOURCES

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

UNITED STATES SENATE

July 18, 1983

MR. CHAIRMAN AND MEMBERS OF THIS SUBCOMMITTEE,

WE APPRECIATE THIS OPPORTUNITY TO OFFER OUR VIEWS CONCERNING NATIONAL POLICIES AFFECTING SHALLOW-DRAFT INLAND NAVIGATION PROGRAMS AND, MORE SPECIFICALLY, OUR RESPONSE TO S. 1554, THE ADMINISTRATION'S PROPOSED "INLAND WATERWAY IMPROVEMENT AND COST RECOVERY ACT OF 1983" AND THE IMPORTANT PUBLIC POLICY QUESTIONS WHICH THIS LEGISLATION PRESENTS. I AM RICHARD A. WILSON, PRESIDENT AND CHIEF EXECUTIVE OFFICER OF AGRI-TRANS CORPORATION OF ST. LOUIS, MISSOURI. AGRI-TRANS CORPORATION IS A BARGELINE OWNED BY FIVE LARGE MIDWESTERN AGRICULTURAL COOPERATIVES, WHICH UTILIZE ALL MODES OF FREIGHT TRANSPORTATION BUT DEPEND HEAVILY ON WATERWAYS FOR RECEIPT OF FERTILIZER AND OTHER FARM SUPPLIES AND FOR SHIPMENT OF GRAINS AND SOYBEANS TO MARKET.

I AM VICE CHAIRMAN OF THE AMERICAN WATERWAYS OPERATORS, INC., THE ONLY TRADE ASSOCIATION REPRESENTING THE U.S. BARGE AND TOWING INDUSTRY ON A NATIONAL SCALE. I AM ALSO CHAIRMAN OF THE BOARD OF THE NATIONAL WATERWAYS CONFERENCE, INC., AN ORGANIZATION COMPOSED OF VARIOUS WATERWAYS INTERESTS, PRINCIPALLY SHIPPERS.

THIS STATEMENT HAS BEEN PREPARED IN CONSULTATION WITH OTHER WATERWAY ORIENTED GROUPS AND, AS SUCH, GENERALLY REPRESENTS THE VIEWS OF THE WATERWAYS INDUSTRY ON USER FEES.

IMPORTANCE OF BARGE TRANSPORTATION

TRANSPORTATION OF FREIGHT ON THE U.S. INLAND AND INTRACOASTAL WATERWAYS IS OF VITAL IMPORTANCE TO THE NATION'S ECONOMY. NAVIGABLE

WATERWAYS DIRECTLY SERVE 41 STATES, AFFECTING MORE THAN 90 PERCENT OF OUR POPULATION. SINCE THE END OF WORLD WAR II, THE VOLUME OF FREIGHT TRANSPORTED ON SHALLOW-DRAFT WATERWAYS HAS TRIPLED AND NOW TOTALS SOME 300 BILLION TON-MILES OF COMMERCE ANNUALLY.

BARGE TRANSPORTATION IS IDEALLY SUITED TO HIGH-TONNAGE SHIPMENTS OF BULK COMMODITIES AND FUELS. ENERGY RESOURCES ACCOUNT FOR MORE THAN ONE-HALF OF TOTAL WATERBORNE COMMERCE. IN 1981, FOR INSTANCE, 26.6 PERCENT OF SHALLOW-DRAFT CARGOES CONSISTED OF BITUMINOUS COAL AND AN ADDITIONAL 28.1 PERCENT WAS PETROLEUM AND PETROLEUM PRODUCTS. EFFICIENT BARGE TRANSPORTATION IS CRITICAL, THEREFORE, TO THE DOMESTIC SUPPLY OF MOTOR FUELS, HEATING OIL, AND FUELS BASIC TO THE STEEL AND CHEMICAL INDUSTRIES AND TO THE ELECTIC GENERATING INDUSTRY. AT THE SAME TIME, BARGE TRANSPORTATION CONSUMES FAR LESS FUEL PER TON-MILE OF CARGO HAULED THAN DO THE RAILROADS, AIRLINES AND TRUCKS.

BARGING MAKES A MAJOR CONTRIBUTION TO THE U.S. BALANCE OF PAYMENTS. THE STEEL INDUSTRY, FOR EXAMPLE, DEPENDS UPON BARGES FOR RECEIPT OF MUCH OF ITS COAL, IRON ORE AND OTHER ESSENTIALS, AND USES INLAND WATERWAYS TO SHIP TO DOMESTIC MARKETS STEEL PRODUCTS WHICH COMPETE WITH IMPORTED STEEL. DOMESTIC COAL MOVES FROM INTERIOR MINES TO COASTAL POINTS FOR EXPORT AS WELL AS FOR DOMESTIC CONSUMPTION, PROVIDING AN ALTERNATIVE TO IMPORTED OIL. IN 1980, BARGE SHIPMENTS OF GRAINS AND SOYBEANS TO COASTAL PORTS REACHED A RECORD 40.3 PERCENT OF TOTAL U.S. EXPORTS OF THESE CROPS. THE COMPETITIVE EFFICIENCY OF THE U.S. CHEMICALS INDUSTRY, OF PETROLEUM REFINING, AND

OF OTHER BASIC INDUSTRIES IS LIKEWISE REINFORCED BY UTILIZATION OF THE HIGHLY DEVELOPED INLAND AND INTRACOASTAL WATERWAYS SYSTEM.

SINCE 1824, THE FEDERAL GOVERNMENT HAS ASSISTED IN THE PROVISION OF NAVIGATION ON THE INLAND RIVERS AND INTRACOASTAL WATERWAYS, PRIMARILY BY CONSTRUCTING AND OPERATING NAVIGATION LOCKS AND DREDGING CERTAIN REACHES TO MAINTAIN NAVIGABLE DEPTHS. FEDERAL WATERWAY INVESTMENTS HAVE BEEN OVER-SHADOWED BY NON-FEDERAL EXPENDITURES IN PORTS AND HARBORS, DOCKS AND WHARVES, ELEVATORS, TERMINALS, HIGHWAY AND RAIL CONNECTIONS, INDUSTRIAL PLANTS AND OTHER FACILITIES SITUATED ALONG WATERWAYS IN ORDER TO UTILIZE THE FEDERAL IN-CHANNEL IMPROVEMENTS. SINCE WORLD WAR II, CAPITAL COMMITMENTS BY PRIVATE FIRMS IN NEW OR EXPANDED INDUSTRIAL OR AGRICULTURAL FACILITIES IN COUNTIES BORDERING NAVIGABLE WATERWAYS HAVE TOTALED SOME $200 BILLION. IT SHOULD BE NOTED, MR. CHAIRMAN, THAT A VIABLE WATERWAY SYSTEM REQUIRES EXTENSIVE INVESTMENT BY THE PRIVATE SECTOR IN SHORESIDE INSTALLATIONS AS WELL AS IN NAVIGATION CHANNELS.

JOBS FOR COUNTLESS THOUSANDS OF AMERICANS ARE PROVIDED IN MINING, MANUFACTURING, PROCESSING, CONSTRUCTION AND AGRI-BUSINESS, ENTERPRISES WHICH ARE HEAVILY DEPENDENT UPON WATERWAY TRANSPORTATION. WATERWAY BENEFITS ARE WIDELY DIFFUSED. TRUCKS AND RAILROADS GATHER CROPS THROUGHOUT THE INTERIOR FARMING REGIONS FOR TRANSSHIPMENT AT RIVER TERMINALS AND CARRY LOADS OF FERTILIZERS, FARM CHEMICALS AND FUELS. ELECTRICITY GENERATED FROM WATERBORNE FUELS IS TRANSMITTED LONG DISTANCES TO INLAND SERVICE AREAS BY HIGH-

VOLTAGE LINES. MANY STATES AND REGIONS RELY ON THE AVAILABILITY OF WATERWAY TRANSPORTATION TO SPUR INDUSTRIAL GROWTH. BARGING IS A MAJOR FACTOR IN THIS NATION'S ECONOMIC ACTIVITIES.

INLAND WATEWAYS ARE A VITAL COMPONENT OF AMERICA'S TRANSPORTATION INFRASTRUCTURE. AS SUCH, THE AVAILABILITY OF BARGE SERVICE IS CRITICALLY IMPORTANT TO KEY SECTORS OF THE U.S. ECONOMY. OUR ECONOMY DEPENDS, IN LARGE MEASURE, ON TRANSPORTATION EFFICIENCIES WHICH ONLY BARGING CAN OFFER IN DELIVERY OF RAW MATERIALS AND FUELS, ACCESS TO DISTANT MARKETS, ECONOMIES OF SCALE AND/OR WATER-COMPELLED FREIGHT RATES.

FOR ALL THESE REASONS AND MORE, THERE IS CLEARLY A BROAD PUBLIC INTEREST IN THE INLAND WATERWAYS SYSTEM AND THE JUSTIFICATION FOR CONTINUED FEDERAL PARTICIPATION.

DEVELOPMENT AND FUNDING OF THE INLAND WATERWAY SYSTEM

HOW DO WE ESTABLISH PRIORITIES FOR MAINTAINING AND DEVELOPING OUR RIVER SYSTEM, AND WHAT ARE THE PRIORITY PROJECTS? HOW IS THE WATERWAY SYSTEM TO BE FINANCED IN THE FUTURE, AND TO WHAT EXTENT DOES THE FEDERAL GOVERNMENT PARTICIPATE? PINPOINTING REVENUE SOURCES WILL NOT BE EASY, ESPECIALLY IN THESE DIFFICULT TIMES, BUT I BELIEVE THIS ISSUE BECOMES MORE MANAGEABLE IF PUT IN THE PROPER CONTEXT. WE NEED TO MATCH THE WATERWAYS SYSTEM TO NATIONAL NEEDS AND POLICY OBJECTIVES AND THEN, AND ONLY THEN, DETERMINE HOW TO FINANCE THE FUTURE NAVIGATION PROGRAM. OBVIOUSLY NAVIGATION IS FAR TOO VITAL TO THE PUBLIC INTEREST TO BE FINANCED ENTIRELY, OR EVEN SUBSTANTIALLY, BY THE PRIVATE SECTOR.

POSITION OF WATERWAY INTERESTS ON FUNDING

WATERWAY CARRIERS AND SHIPPERS WANT TO PAY THEIR "FAIR SHARE" OF THE COSTS FOR THE NAVIGABLE WATERWAYS. THIS ACCEPTANCE OF FINANCIAL PARTNERSHIP — AND THAT IS ONGOING, WE ARE ALREADY PAYING USER TAXES — IS BASED UPON FOUR ESSENTIAL PREREQUISITES. THEY ARE:

- ACKNOWLEDGEMENT OF THOSE BENEFITS TO THE GENERAL PUBLIC FROM WATER RESOURCES INVESTMENT.
- ACCURATE ALLOCATION OF COSTS AMONG WATERWAY BENEFICIARIES.
- RECOGNITION THAT FEDERAL ASSISTANCE IS EXTENDED TO OTHER TRANSPORTATION MODES.
- PARTICIPATION BY THE USERS OF THE NAVIGATION SYSTEM IN DETERMINING HOW USER FEE REVENUES ARE SPENT.

1. PUBLIC VALUE. DOWN THROUGH THE YEARS, FEDERAL WATERWAY INVESTMENTS HAVE BEEN JUSTIFIED ON GROUNDS THAT THEIR PUBLIC BENEFITS EXCEEDED THEIR PUBLIC COSTS. AN EXAMINATION OF CONGRESSIONAL HEARINGS RECORDS, COMMITTEE REPORTS AND FLOOR DEBATES REVEALS THAT WATERWAY PROGRAMS, INCLUDING THE DEVELOPMENT OF NAVIGABLE WATERWAY SYSTEMS, HAVE LONG BEEN SUPPORTED FOR THEIR ROLE IN SERVING VARIOUS PUBLIC POLICY OBJECTIVES, PARTICULARLY ECONOMIC DEVELOPMENT. NATIONAL DEFENSE, EXPORT PROMOTION, AND EXPANDING THE JOB MARKET HAVE ALSO FIGURED PROMINENTLY IN THE CONGRESSIONAL JUSTIFICATION OF WATERWAY PROJECTS AS HAVE THEIR PROSPECTIVE BENEFICIAL IMPACT ON THE FARMING, MINING AND INDUSTRIAL ECONOMIES.

IT WAS IN RECOGNITION OF THESE "FEDERAL INTERESTS" THAT MR. WILLIAM R. GIANELLI, ASSISTANT SECRETARY OF THE ARMY (CIVIL WORKS), PROPOSED EARLIER THIS YEAR TO REDUCE THE COST-RECOVERY OBJECTIVE FROM 100 PERCENT TO 70 PERCENT. IN A DRAFT LETTER WIDELY CIRCULATED WITHIN THE ADMINISTRATION, MR. GIANELLI IDENTIFIED THESE PUBLIC INTERESTS AS "DEFENSE, NATIONAL SECURITY, INTERNATIONAL TRADE AND A NAVIGATION INFRASTRUCTURE ESSENTIAL TO THE NATION'S ECONOMIC WELL-BEING." INCIDENTALLY, IN AN EARLIER LETTER ALSO WIDELY CIRCULATED, MR. GIANELLI HAD PROPOSED THAT THE COST-RECOVERY OBJECTIVE FOR SHALLOW-DRAFT NAVIGATION BE SET AT 60 PERCENT.

THERE IS NO DENYING THAT COMMERCIAL NAVIGATION PROVIDES A MIX OF PUBLIC BENEFITS, WHICH ACCRUE TO THE NATION AT LARGE, AS WELL AS PRIVATE BENEFITS WHICH ACCRUE TO DIRECT WATERWAY BENEFICIARIES. TO THE EXTENT THAT WATERWAY CARRIERS AND SHIPPERS REALIZE FINANCIAL GAINS, USER CHARGES ARE A MECHANISM FOR RECOVERING A SPECIFIED PORTION OF THESE "PRIVATE BENEFITS." THEY CAN BE DEFINED AS WHAT REMAINS AFTER PUBLIC BENEFITS ARE DEDUCTED. IT WILL NOT BE A SIMPLE MATTER TO ASCERTAIN WHAT SHARE OF NAVIGATION COSTS ARE IN THE PUBLIC INTEREST. THIS DETERMINATION MUST BE BASED ON RELEVANT AGRICULTURAL, INDUSTRIAL, NATIONAL DEFENSE, INTERNATIONAL TRADE AND OTHER NATIONAL POLICIES. ONE THING IS CERTAIN: THE "PUBLIC VALUE" OF NAVIGATION PROGRAMS IS VERY SUBSTANTIAL AND CANNOT BE QUANTIFIED IN A VACUUM.

2. COST ALLOCATION. THE DEBILITATING DEFECT IN THE ADMINISTRATION'S PROPOSAL S. 1554, AS A WATERWAYS USER TAX PROGRAM LIES IN ITS FAILURE TO ACKNOWLEDGE THAT MANY SECTORS OF OUR SOCIETY

DIRECTLY BENEFIT FROM THE NATION'S WATERWAY SYSTEM. YET, THE PROPOSAL REQUIRES THE NAVIGATION INDUSTRY ALONE TO BEAR THE COST. AS SEVERAL COST ALLOCATION STUDIES HAVE DEMONSTRATED, ARMY CORPS OF ENGINEERS' NAVIGATION ACCOUNTS INCLUDE VARIOUS COSTS WHICH ARE ONLY VAGUELY RELATED, IF AT ALL, TO COMMERCIAL NAVIGATION. THESE COSTS OR BENEFICIARIES INCLUDE HYDRO-ELECTRIC POWER, RECREATION, FLOOD CONTROL, WATER QUALITY AND WATER SUPPLY.

THE FIRST STEP IN ANY COST ALLOCATION PROCESS IS DETERMINING THE TRUE BENEFICIARIES OF WATERWAY EXPENDITURES.

ONCE THE NAVIGATION-SPECIFIC COSTS HAVE BEEN IDENTIFIED, WE SUGGEST THAT THE SHALLOW-DRAFT NAVIGATION SYSTEM BE CLASSIFIED ACCORDING TO USE. WE RECOMMEND THREE CLASSIFICATIONS: MAIN-STEM WATERWAYS, DEVELOPING WATERWAYS, AND OTHER WATERWAYS. THE MAIN-STEM SYSTEM CONSISTS OF NAVIGATION ARTERIES MOVING SUBSTANTIAL VOLUMES OF WATERBORNE COMMERCE. DEVELOPING WATERWAYS INCLUDE THOSE OPENED TO NAVIGATION DURING THE LAST 25 YEARS AND ON WHICH SMALLER BUT INCREASING VOLUMES OF TRAFFIC ARE NOW MOVING. THESE WATERWAYS GENERALLY SERVE UNDERDEVELOPED OR DEPRESSED AREAS; THEIR INITIAL CONSTRUCTION WAS PROMPTED BY THE QUEST FOR ECONOMIC DEVELOPMENT, NOT CARRIER OR SHIPPER DEMANDS. THE THIRD WATERWAY CLASSIFICATION, "OTHER WATERWAYS," COMPRISES EXTENSIVE CHANNELS USED ALMOST ENTIRELY FOR RECREATIONAL, FISHING, OR FERRY TRAFFIC OR AS HARBORS OF REFUGE.

THIS CLASSIFICATION SYSTEM SHOULD ASSIST CONGRESS IN DISTINGUISHING THOSE WHICH ARE RARELY USED FOR COMMERCIAL NAVIGATION PURPOSES.

CONGRESS MUST TAKE THE LEAD TO ARRIVE AT A FAIR ALLOCATION METHOD. THE ADMINISTRATION'S PROPOSAL WOULD ASSIGN THE LION'S SHARE OF OVERALL CORPS OF ENGINEERS' COSTS TO COMMERCIAL NAVIGATION. WE ARE IN EFFECT BEING ASKED TO SIGN A BLANK CHECK FOR OTHER USERS. THAT IS PATENTLY UNFAIR, IN MY VIEW. THE OBJECTIVE AND REALISTIC ALLOCATION OF NAVIGATION COSTS IS IMPERATIVE IN RESOLVING THIS ISSUE. A COMPREHENSIVE AND ACCURATE COST ALLOCATION DETERMINATION WILL SHOW THAT A SUBSTANTIAL PERCENTAGE OF FEDERAL WATERWAY EXPENDITURES ACCRUES TO NON-COMMERCIAL BENEFICIARIES OR NATIONAL OBJECTIVES. CONGRESS SHOULD NOT ACCEPT CRUDE AND ARBITRARY ESTIMATES ON THIS CRUCIAL MATTER.

3. COMPETITIVE EQUITY. WHATEVER SHARE OF NAVIGATION COST IS DETERMINED TO BE THE RESPONSIBLITY OF WATERWAY SHIPPERS AND CARRIERS — ONCE FEDERAL COSTS ARE PROPERLY ALLOCATED AND DUE CONSIDERATION IS GIVEN TO PUBLIC VALUE ASPECTS — THE EXTENT OF FEDERAL ASSISTANCE TO OTHER MODES, PARTICULARLY RAILROADS, MUST BE TAKEN INTO ACCOUNT. TO AVOID MARKETPLACE DISTORTIONS AND WHOLESALE DISRUPTION OF ESTABLISHED TRADE PATTERNS, AS WELL AS TO PROMOTE FAIR AND EQUITABLE PUBLIC POLICY, FEDERAL ASSISTANCE MUST BE EVENHANDED. FAIRNESS AND BALANCE MUST UNDERGIRD THE NATION'S TRANSPORTATION POLICY.

SINCE 1824, THE FEDERAL GOVERNMENT HAS SPENT SOMEWHAT LESS THAN $9 BILLION IN BUILDING, OPERATING AND MAINTAINING SHALLOW-DRAFT NAVIGATION FACILITIES. THAT IS THE FIGURE REPORTED BY THE CORPS OF ENGINEERS WITHOUT ANY SUBSEQUENT COST ALLOCATION. BY CONTRAST, THE

FEDERAL GOVERNMENT HAS DISBURSED AND IS STILL DISBURSING FAR LARGER SUMS TO U.S. RAILROADS. THESE RAIL SUBSIDIES TAKE MANY FORMS: CAPITAL ASSISTANCE, LOW-INTEREST LOANS, TAX BREAKS, GRADE CROSSINGS AND PENSION FUND.

FOR INSTANCE, TO KEEP THE RAILROAD RETIREMENT FUND SOLVENT THROUGH THE YEAR 2000, THE U.S. TREASURY EXPECTS TO PAY OUT WELL OVER $10 BILLION — PAYMENTS WHICH THE OFFICE OF MANAGEMENT AND BUDGET HAVE CLASSIFIED AS A "DIRECT SUBSIDY" TO THE RAILROAD INDUSTRY.

IN THE SAME VEIN, CONGRESSMAN JAMES J. FLORIO (D-NJ), CHAIRMAN OF THE COMMERCE, TRANSPORTATION AND TOURISM SUBCOMMITTEE OF THE HOUSE ENERGY AND COMMERCE COMMITTEE, HAS STATED: "GOVERNMENT IN THE LAST FIVE YEARS HAS SPENT SOME $11 BILLION IN RAILROAD SUBSIDIES." IN BOTH INSTANCES, MR. CHAIRMAN, I INVITE YOUR ATTENTION TO THE USE OF THE WORD "SUBSIDY" BY OFFICIALS OF THE UNITED STATES FROM DIFFERENT BRANCHES OF GOVERNMENT TO DESCRIBE FEDERAL AID TO RAILROADS.

A SUBSTANTIAL PORTION OF THIS SUBSIDY IS CERTAINLY CHARGEABLE TO RAIL FREIGHT OPERATIONS. FEDERAL BAILOUT OF THE NORTHEAST RAIL SYSTEM INCLUDES GOVERNMENT PURCHASE OF BANKRUPT RAILROADS AND THEIR CONSOLIDATION INTO CONRAIL PLUS INJECTIONS OF PUBLIC MONIES TO KEEP THE SYSTEM OPERATING. SO FAR, THIS RAILROAD PROGRAM HAS COST TAXPAYERS MORE THAN $6.5 BILLION. A RECENT CHANGE IN RAILROAD ACCOUNTING METHODS RESULTED IN TAX SAVINGS TO RAILROADS (BUT REDUCED FEDERAL TAXES) TOTALING IN THE BILLIONS OF DOLLARS. THAT'S A TAX SUBSIDY IF THERE EVER WAS ONE!

THE DEPARTMENT OF TRANSPORTATION DISMISSED THE SIGNIFICANCE OF FEDERAL RAILWAY AID BY ASSERTING THAT ITS POLICY IS ONE OF NO-SUBSIDY TO ANY MODE. BUT THIS QUALIFIES AS A NON-RESPONSE BECAUSE THE RECORD CLEARLY SHOWS THAT UNREIMBURSED FEDERAL SUBSIDY AND SUBSIDY-EFFECT PROGRAMS BENEFITING RAILROADS ARE SUBSTANTIAL AND ARE CONTINUING. WE BELIEVE FEDERAL USER CHARGE POLICY SHOULD BE CONSISTENT. CONGRESS MUST CONSIDER FEDERAL ASSISTANCE TO COMPETING TRANSPORT MODES WHEN IT ESTABLISHES COST RECOVERY POLICY.

4. USER SAY. IF THEY ARE REQUIRED TO PAY A SHARE OF FUTURE NAVIGATION COSTS, USERS MUST HAVE SOME SAY IN WHERE SYSTEM IMPROVEMENTS ARE MADE, THE PRIORITY ORDER IN WHICH THESE IMPROVEMENTS ARE UNDERTAKEN AND HOW USER-PAID REVENUES ARE SPENT. AS I SEE IT, USER-SAY IS A LOGICAL COMPONENT OF ANY USER-PAY POLICY.

IN THE PAST, MOST WATERWAY PROGRAMS HAVE BEEN UNDERTAKEN FOR REGION BUILDING, JOB-PRODUCING OR OTHER BROAD POLICY GOALS. RARELY, IF EVER, HAS THE BARGE AND TOWING INDUSTRY SUPPORTED THE CONSTRUCTION OF ANY NEW WATERWAY. CONGRESSIONAL SUPPORT HAS COME FROM LOCAL, STATE AND REGIONAL INTERESTS. WHILE MOST WATERWAY PROGRAMS HAVE PROVED TO BE WISE INVESTMENTS, THEY WERE NOT FUNDED AT THE REQUEST OF WATER CARRIERS. THE WATERWAY TRANSPORTATION INDUSTRY SHOULD NOT BE HELD RESPONSIBLE, NOW OR IN THE FUTURE, FOR PROJECTS CONCEIVED TO SATISFY ECONOMIC DEVELOPMENT OR OTHER PUBLIC OBJECTIVES.

BY THE SAME TOKEN, WATERWAY CARRIERS AND SHIPPERS WANT GUARANTEES THAT USER CHARGE REVENUES WILL BE USED ONLY ON PROJECTS

WHICH THE COMMERCIAL NAVIGATION INDUSTRY NEEDS AND WANTS. AND BECAUSE USER REVENUES MAY BE LIMITED, PRIORITIES MUST BE DETERMINED IN SELECTING THOSE PROJECTS WHICH ARE TO MOVE FORWARD AND THE ORDER IN WHICH THEY ARE UNDERTAKEN. SEVERAL PENDING MEASURES ATTEMPT TO SET PRIORITIES BY IDENTIFYING CERTAIN "CRITICAL" NAVIGATION REPLACEMENT PROJECTS.

IT SHOULD BE NOTED THAT THE INLAND WATERWAYS TRUST FUND IS ESTIMATED TO CONTAIN, AT THE END OF THE CURRENT FISCAL YEAR, APPROXIMATELY $100 MILLION IN FUEL TAX REVENUES WHICH ARE TO BE USED FOR NAVIGATION CONSTRUCTION OR REHABILITATION PROJECTS. THE BARGE AND TOWING INDUSTRY IS NOW PAYING USER TAXES, AND HAS BEEN PAYING USER TAXES FOR ALMOST THREE YEARS. AS YOU KNOW, THIS TAX IS SCHEDULED TO INCREASE ON OCTOBER 1, 1983, TO 8¢ A GALLON AND WILL GENERATE ABOUT $50 MILLION IN REVENUE FOR EACH OF THE NEXT TWO YEARS. ON OCTOBER 1, 1985, THE FUEL TAX ADVANCES TO 10¢ A GALLON, WHICH SHOULD PRODUCE SOME $75 MILLION ANNUALLY THEREAFTER. THESE REVENUES SHOULD BE SUFFICIENT, MR. CHAIRMAN, TO COMMENCE CONSTRUCTION ON THE MOST PRESSING AND TIMELY REPLACEMENT PROJECTS — PROVIDED THAT PROPER CONSIDERATION IS GIVEN TO THE PROBLEMS OF COST ALLOCATION, PUBLIC VALUE, EQUITY AND USER SAY.

DEPRESSED STATE OF WATERWAYS INDUSTRY

IN ADDITION TO THESE FOUR PRIMARY CONSIDERATIONS, THERE ARE CERTAIN OTHER FACTORS OF WHICH THE SUBCOMMITEE ON WATER RESOURCES SHOULD BE AWARE IN GRAPPLING WITH THE TWIN ISSUES OF NAVIGATION

PROJECT AUTHORIZATIONS AND NAVIGATION COST-RECOVERY POLICY. THESE ARE BASICALLY ECONOMIC QUESTIONS. SIMPLY PUT, THE BARGE BUSINESS AND MOST OF THOSE INDUSTIRES WHICH IT SERVES — IN THE TRANSPORTATION OF RAW MATERIALS, BULK COMMODITIES AND FUELS — ARE EXTREMELY DEPRESSED. A LARGE PERCENTAGE OF THE TOWBOAT AND BARGE FLEET IS TIED UP. MORE THAN 30 PERCENT OF THE TANK BARGES USED TO MOVE PETROLEUM, CHEMICAL AND PETROCHEMICAL PRODUCTS ARE IDLE. SOME 25 TO 30 PERCENT OF THE DRY BULK FLEET IS LAID UP BECAUSE IRON ORE, FERTILIZER, GRAIN, CEMENT AND OTHER COMMODITIES ARE MOVING IN DECREASED VOLUMES. SHIPYARDS HAVE BEEN PARTICULARLY HARD HIT, WITH INDUSTRY UNEMPLOYMENT NEAR 75 PERCENT.

IN THIS TIME OF BALLOONING BUDGET DEFICITS, IT IS TEMPTING FOR THE CONGRESS TO WIELD A HEAVY HAND IN CUTTING EXPENSES. THE POSSIBILITY OF SHIFTING NAVIGATION COSTS TO NON-FEDERAL INTERESTS MAKES INNOCUOUS-SOUNDING "USER CHARGES" APPEAR ALL THE MORE ATTRACTIVE.

IT SEEMS CLEAR THAT THIS WHOLE EXERCISE IS A PART OF THE ADMINISTRATION'S LAUDABLE ATTEMPT TO DRIVE DOWN THE BUDGET DEFICITS. BUT, HOW REALISTIC IS THIS? AND WITH WHAT EFFECT? THE $36 MILLION IN USER TAXES EXPECTED TO BE COLLECTED THIS YEAR REPRESENTS A TRIVIAL CONTRIBUTION — ABOUT 0.02 PERCENT — IN RELATION TO THE PROJECTED FEDERAL DEFICIT OF APPROXIMATELY $190 BILLION. TO THE WATERWAYS OPERATORS TRYING TO SURVIVE IN THIS DEPRESSED ECONOMY, ANY INCREASED USER TAX COULD TIP THE BALANCE TOWARD BANKRUPTCY.

EARLIER THIS YEAR, THE ACCOUNTING FIRM OF ARTHUR ANDERSON & COMPANY WAS ASKED TO ANALYZE THE FINANCIAL STATEMENTS OF 15 MAJOR

BARGE COMPANIES. INCLUDED WERE MOST OF THE NATION'S LARGEST BARGE LINES. THE ACCOUNTANTS FOUND THAT THESE COMPANIES REPORTED PROFITS TOTALING $133 MILLION IN 1980. BUT IN 1982, THESE SAME COMPANIES OPERATED AT A COMBINED LOSS OF ALMOST $30 MILLION! IN 1983, THEIR LOSSES ARE EXPECTED TO BE MUCH HIGHER.

DESPITE THEIR LOSSES, THESE COMPANIES ARE PAYING MANY MILLIONS OF DOLLARS IN THE EXISTING WATERWAY FUEL TAX. AND I WOULD POINT OUT TO YOU THAT THESE BARGELINES ARE AMONG THE GIANTS OF THE WATER CARRIER INDUSTRY AND NOT IN THE SAME CATEGORY AS THE "SMALL MARGINAL" OPERATORS WHICH THE SECTION 205 USER CHARGE IMPACT STUDY FOUND MIGHT NOT SURVIVE THE TRANSITION TO FULL COST RECOVERY. THESE MAJOR OPERATORS ARE NOW IN DEEP TROUBLE AS A RESULT OF THE ECONOMIC RECESSION COUPLED WITH THE CURRENT FUEL TAX.

WITH BOTH THE BARGE AND TOWING INDUSTRY AND THOSE ECONOMIC SECTORS IT SERVES SO DEPRESEED, MOST WATERWAY CARRIERS AND SHIPPERS COULD NOT WITHSTAND THE BURDEN OF STEEP WATERWAY USER TAX INCREASES AS ENVISIONED IN THE ADMINISTRATION'S PROPOSED LEGISLATION, S. 1554. IN TODAY'S WEAK ECONOMY, THERE CAN BE NO PASS THROUGH OF INCREASED TRANSPORTATION COSTS.

THE BARGE INDUSTRY'S CUSTOMERS INCLUDE THOSE INDUSTRIES WHICH ARE ALSO HARD PRESSED: PETROLEUM, COAL, CHEMICALS, IRON AND STEEL, CONSTRUCTION MATERIALS, FERTILIZER, ALUMINUM AND WOOD PRODUCTS. FOREIGN MARKETS HAVE EVAPORATED, PLANTS HAVE SHUT DOWN, AND UNEMPLOYMENT IN THESE INDUSTRIES FAR EXCEEDS NATIONAL AVERAGES. AMERICA'S HIGHEST UNEMPLOYMENT RATE IS IN THE COAL MINING AND

INDUSTRIAL STATE OF WEST VIRGINIA, WHERE IT IS CURRENTLY 19 PERCENT. OTHER SECTORS OF THE ECONOMY MAY BE BOUNCING BACK, BUT THE WATERWAY-RELATED INDUSTRIES' ECONOMIC COME BACK IS PAINFULLY SLOW.

AMERICAN AGRICULTURE IS NOT WITHOUT ITS PROBLEMS, TOO. FARMERS ARE STILL HAVING GREAT DIFFICULTY IN MAKING ENDS MEET, AND NUMEROUS AGRI-BUSINESSES ARE OPERATING IN THE RED. WITHOUT THE TRANSPORTATION ALTERNATIVE WHICH WATERWAYS PROVIDE, AGRICULTURAL PRODUCERS WOULD BE FAR WORSE OFF. FARM EXPORTS ARE SOLD WITHOUT BENEFIT OF LONG-TERM CONTRACTS AND IN WORLD MARKETS WHICH VARY CONSTANTLY. WATERWAYS HELP KEEP U.S. FARM PRODUCTS COMPETITIVE IN WORLD MARKETS, THUS IMPROVING THE U.S. BALANCE OF PAYMENTS.

HIGHER COSTS OF WATERWAY TRANSPORTATION RESULTING FROM HIGHER USER TAXES WOULD HAVE THE OPPOSITE EFFECT. THE COST OF SHIPPING GRAIN FROM CLINTON, IOWA, TO THE GULF COAST FOR EXPORT IS CURRENTLY ABOUT $4.07 PER TON. A TAX OF 1.1 MILLS PER TON-MILE, AS PROPOSED IN S. 1554, WOULD INCREASE THE COST OF SHIPPING GRAIN BY BARGE BY 27 PERCENT. THIS FIGURE TRANSLATES INTO AN INCREASE OF 4¢ A BUSHEL OF WHEAT. WHO WILL ABSORB THAT COST? FOUR CENTS A BUSHEL MAY NOT SOUND LIKE VERY MUCH BUT, IN A BUYER'S MARKET, THE SALE WILL ALWAYS GO TO THE LOWEST BIDDER; JUST THE SLIGHTEST INCREASE IN SHIPPING COSTS COULD INDUCE THE BUYER TO LOOK ELSEWHERE. I SUBMIT THAT WE SHOULD NOT IMPOSE A TAXATION POLICY WHICH WOULD FRUSTRATE U.S. EXPORT POLICY.

THE IMPORTANT POINT TO REMEMBER IS THAT THE ECONOMIC IMPACT OF EXPORT SALES—OR, CONVERSELY, THE LOSS OF EXPORT MARKETS—GOES FAR

BEYOND THE FREIGHT TRANSPORTATION SYSTEM. A RIPPLE EFFECT UNDOUBTEDLY WOULD BE FELT THROUGHOUT THE ECONOMY. HIGHER TRANSPORTATION COSTS WOULD NOT MAGICALLY DISAPPEAR. SOMEONE HAS TO FOOT THE BILL—PRODUCERS, SHIPPERS, OR CONSUMERS. IN THE SHORT TERM, THE NATURE OF THE MARKET WILL DETERMINE WHO PAYS. STRONG DEMAND WOULD SHIFT COSTS TO CONSUMERS, AND WEAK DEMAND DICTATE THAT PRODUCERS WOULD PAY. OVER THE LONG TERM, HOWEVER, MOST IF NOT ALL OF THE INCREASED TRANSPORTATION TAB WOULD COME DIRECTLY OUT OF THE POCKETS OF U.S. FARMERS.

SUMMARY OF WATERWAYS INDUSTRY POSITION

IN THIS STATEMENT, MR. CHAIRMAN, I HAVE SOUGHT TO EXPLAIN WHY WE BELIEVE YOUR SUBCOMMITTEE SHOULD MOVE CAUTIOUSLY IN DEVELOPING A NATIONAL POLICY FOR NAVIGATION COST SHARING. BEFORE CONSIDERATION IS GIVEN TO INCREASES IN USER CHARGE LEVELS, WE URGE THE SUBCOMMITTEE TO EXAMINE THE RELATED ISSUES OF COST ALLOCATION, PUBLIC VALUE, COMPETITIVE EQUITY AND USER SAY. IN MY JUDGEMENT, CONGRESS MUST RESOLVE THESE ISSUES FIRST, WHILE KEEPING IN MIND THE DEPRESSED STATE OF THE WATERWAY TRANSPORTATION ECONOMY.

FAR GREATER THAN TAX DOLLARS THEY MIGHT PRODUCE, USER CHARGES CREATE FAR REACHING PROBLEMS IN THE AMERICAN ECONOMY. THE USER CHARGE PROGRAM ADVOCATED BY THE ADMINISTRATION COULD EASILY MEAN LOST MARKETS FOR U.S. PRODUCTS, LOWER INCOME FOR AMERICAN FARMERS, FEWER JOB OPPORTUNITIES FOR INDUSTRIAL WORKERS AND REDUCED ECONOMIC ACTIVITY THROUGHOUT THE RIVER VALLEYS. THIS IS WHY

WE URGE SLOW TREADING ON THE USER CHARGE ISSUE UNTIL MORE FACTS ARE KNOWN.

AS WE HAVE POINTED OUT, THE INLAND WATERWAYS CONTRIBUTE SUBSTANTIALLY TO AMERICA'S EXPORTS, PARTICULARLY WITH RESPECT TO GRAINS, SOYBEANS AND COAL. AND IN THE FUTURE, THESE EXPORT VOLUMES ARE EXPECTED TO MULTIPLY. THESE OVERSEAS SALES MAKE IT FEASIBLE FOR THE U.S. TO IMPORT LARGE VOLUMES OF COMMERCE WITHOUT UNDERMINING THE DOMESTIC ECONOMY. WHEN THESE IMPORTS ARE UNLOADED HERE, CUSTOMS DUTIES ARE PAID AND THESE DUTIES TOTALED SOME $6 BILLION AT U.S. SEAPORTS LAST YEAR. LEGISLATION HAS BEEN INTRODUCED, S. 1445, TO PROVIDE FOR CUSTOM-SHARING AMONG THE TRANSPORTATION MODES, AND A STRONG ARGUMENT CAN BE MADE THAT AT LEAST A PORTION OF THESE CUSTOMS COLLECTIONS SHOULD BE CREDITED TO THE INLAND NAVIGATION ACCOUNT.

OTHER REVENUE SOURCES SHOULD ALSO BE INVESTIGATED. HYDROPOWER REVENUES ON NAVIGABLE WATERWAYS AND THEIR TRIBUTARIES COULD BE ALLOCATED TO THE NAVIGATION PROGRAM, AS THEY ARE DONE IN COUNTRIES SUCH AS FRANCE AND GERMANY. TRANSFER FEES MIGHT BE ASSESSED WHEN LAND ALONGSIDE OR NEAR NAVIGABLE WATERWAYS IS SOLD OR LEASED. THERE ARE SUBSTANTIAL WITHDRAWALS OF MUNICIPAL AND INDUSTRIAL WATER FROM NAVIGATION POOLS. THE NAVIGATION ACCOUNT SHOULD BE CREDITED FOR THIS USEAGE IN SOME MANNER.

THE FEDERAL GOVERNMENT ITSELF MUST BE A MAJOR FINANCIAL CONTRIBUTOR. IN THE ADMINISTRATION'S PENDING COST-SHARING POLICY FOR WATER RESOURCES PROGRAMS, WE ARE TOLD THAT NON-FEDERAL

BENEFICIARIES OF FLOOD CONTROL PROJECTS WILL BE ASKED TO PUT UP 35 PERCENT OF PROJECT COSTS, INCLUDING CONSTRUCTION. WHAT IS THE RATIONALE WHICH DICTATES THAT NAVIGATION USERS ARE TO BE CHARGED EXACTLY TWICE AS MUCH?

INLAND NAVIGATION IS A PROGRAM IN WHICH THE FEDERAL GOVERNMENT HAS ALWAYS HAD A KEY INVOLVEMENT. HISTORICALLY, AND PARTICULARLY SINCE WORLD WAR II, THIS HAS BEEN A PROGRAM IN WHICH THE FEDERAL GOVERNMENT, STATE, AND LOCAL GOVERNMENTS, AND THE PRIVATE SECTOR HAVE EACH PARTICIPATED. WHAT IS NEEDED NOW, I SUGGEST, IS A RENEWED COMMITMENT ON THE PART OF THE FEDERAL GOVERNMENT TO REMAIN AS THE SENIOR PARTNER. WHEN THAT COMMITMENT IS FORTHCOMING, I BELIEVE WE WILL BE IN A POSITION TO DECIDE ON THE PROPER ROLES OF THE OTHER PARTNERS IN ACHIEVING REAL AND WORKABLE COST SHARING AND IN MAKING SURE THAT OUR NATIONAL SYSTEM OF INLAND AND INTRACOASTAL WATERWAYS CONTINUES TO SERVE THE PUBLIC INTEREST.

ON BEHALF OF THE VARIOUS WATERWAY INTERESTS INDICATED BELOW, I THANK THE SUBCOMMITTEE FOR THIS OPPORTUNITY TO ADDRESS THE SUBJECT OF NATIONAL WATERWAYS POLICY IN AN OPEN FORUM SUCH AS THIS. WE WILL BE PLEASED, MR. CHAIRMAN, TO ANSWER ANY QUESTIONS WHICH YOU OR YOUR COLLEAGUES MAY HAVE.

THANK YOU.

AMERICAN INSTITUTE OF MERCHANT SHIPPING
WASHINGTON, DC

AMERICAN WATERWAYS OPERATORS, INC.
ARLINGTON, VA

ARKANSAS BASIS DEVELOPMENT ASSOCIATION
TULSA, OK

ARKANSAS WATERWAYS COMMISSION
LITTLE ROCK, AR

BOARD OF COMMISSIONERS OF THE PORT OF NEW ORLEANS
NEW ORLEANS, LA

CITY OF TULSA — ROGERS COUNTY PORT AUTHORITY
CATOOSA, OK

GEORGIA PORTS AUTHORITY
SAVANNAH, GA

INLAND RIVERS PORTS & TERMINALS, INC.
ST. LOUIS, MO

NATIONAL ASSOCIATION OF WHEAT GROWERS
WASHINGTON, DC

NATIONAL GRANGE
WASHINGTON, DC

NATIONAL WATERWAYS CONFERENCE, INC.
WASHINGTON, DC

PACIFIC NORTHWEST WATERWAYS ASSOCIATION
VANCOUVER, WA

PORT OF PORTLAND COMMISSION
PORTLAND, OR

TRANSPORTATION INSTITUTE
CAMP SPRINGS, MD

UPPER MISSISSIPPI WATERWAYS ASSOCIATION
AMERY, WI

WATER RESOURCES CONGRESS
WASHINGTON, DC

The American Waterways Operators, Inc.

Executive Offices

1600 Wilson Boulevard
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Tel. 703 841-9300

Joseph Farrell
President

August 5, 1983

Honorable James Abdnor, Chairman
Subcommittee on Water Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

We appreciate the opportunity to submit for the record additional comments relating to the statement presented July 18 before your Subcommittee on Water Resources by Richard A. Wilson, President and Chief Executive Officer of Agri-Trans Corporation.

As Mr. Wilson and other witnesses testified, the Administration's proposal to impose an additional fee of 1.1 mills per ton mile to recover seventy percent of Corps of Engineers operation and maintenance expenditures would add over 4 cents to the price per bushel of grain. As you well know, this increase not only impacts the overall attractiveness of the price of U.S. grain exports, but also significantly affects the profit of the already financially-hard-pressed farm economy. For example, if the cost of producing a bushel of grain is $3.00 per bushel and the selling cost, $3.08 per bushel, an additional 4 cents in a user fee would slash the already small profit from 8 cents to 4 cents per bushel, or about 1 percent profit on the cost of production.

We would also like to comment on estimates of project costs which were presented at the hearing; in particular, your estimate of $4.5 billion as the combined cost over the next five years for inland waterways requirements - operation and maintenance and rehabilitation/replacement of six locks and dams.

I'm sure you will agree that it is important that this figure be analyzed in its entire context. New projects costs are traditionally amortized over the life of such projects; in the case of inland navigation facilities, the standard is a 50-year useful life. The Congressional appropriations process provides funding levels for construction and operation and maintenance on an annual basis - the total authorized level is not fully obligated at the time of initial appropriation. It is unrealistic to compare total construction costs of inland navigation facilities combined with a five-year total of operation and maintenance requirements to the annual receipts contributed by the shallow-draft waterway industry into the Inland Waterways Trust Fund.

Furthermore, operation and maintenance costs should be considered separately from construction and/or rehabilitation costs. As you know, the Inland Waterways Trust Fund, authorized by Congress in 1978 is intended, as provided for

The Barge and Towing Industry Association

in appropriations acts, for construction and rehabilitation expenditures for navigation on the applicable segments of the inland and intracoastal waterway system. Operation and maintenance therefore is intended by Congress as the responsibility of the federal government.

We appreciate the opportunity to submit additional comments to you and again offer our assistance in working with you on the development of a national water resources policy.

Sincerely,

Joe

Joseph Farrell

JF:me

cc: Members, Subcommittee on Water Resources

INLAND RIVERS PORTS & TERMINALS, INC.
P.O. Box 863 Central Station • (314) 241-7354
St. Louis, Missouri 63188

STATEMENT July 1983

FOR PRESENTATION BEFORE

U. S. SENATE SUBCOMMITTEE ON WATER RESOURCES

Mr. Chairman, Members of the Subcommittee, my name is Milton Barschdorf. I am currently serving as Chairman of the Board, Inland Rivers Ports & Terminals, Inc., a non-profit organization composed of port authorities and river terminal operators located on the nation's shallow draft inland waterways systems serving directly some of the most highly productive agricultural and industrial complexes of the United States.

Our membership and all those impacted by the healthy growth of business throughout the shallow draft inland waterways systems are vitally concerned over the outcome of user fee legislation scheduled for hearings before Congress, including deep draft, for whatever legislation is passed regarding deep draft user fees, the precedent set will most likely be similarly applied in principle to the shallow draft inland waterways.

Most persons not thoroughly familiar with the role of our nation's ports have the impression that, with the exception of the differences in depth, they are all one and the same from the standpoint of cargo movements and viability.

Nothing could be further from the truth.

The primary function of the deep water port is the development of the export/import trade via deep draft ocean going vessels. The cargo movements in support of this trade move to and from interior points by truck, rail and the shallow draft inland waterways.

Should any one of these three inland transportation distribution modes fail or fluctuate in service the deep water port can depend upon the other competing modes to bridge the gap and keep shipment moving via the deep draft vessels in world trade. The additional transportation costs are charged to the shipper and ultimately to the consumer and taxpayer.

The shallow draft inland waterway ports, numbering well over 180 on the other hand, are dependent entirely upon the viability of a single mode, the inland waterways, and the towboat industry which moves the cargo. Should that one mode fail or deteriorate the entire inland port system will likewise fail or deteriorate.

Also drastically affected are the industrial and agricultural complexes whose economic survival also depends upon the healthy condition of the inland waterway mode. The industrial development aspect of this alone represents capital investments exceeding $203 billion.

All transportation modes are vital to our nation's economy and it follows that the most economic, efficient, and energy conserving intermodal system is one which provides for the maximum utilization of transportation by water to a point as close as possible to the receiver, utilizing rail and truck to complete the remainder of the movement normally within the shorter ranges of haul where these modes are most efficient.

Due to the highly competitive nature of the transportation modes, Federal subsidies and Federal taxes, in whatever form, play a most crucial role in establishing a comparable base from which to measure the true cost of services and capability to compete.

As an example, taking FY 1980 figures, Federal subsidies to the inland waterways amounted to approximately $282 million while Federal subsidies to the railroads were approximately $2.4 billion. Reduced to ton-miles, this is .09 cents/ton mile to inland waterways and .27 cents/ton-mile to the railroads - a three-fold financial advantage to rail.

Compounding this three-fold advantage is the Administration's proposal to further tax the inland waterways to recover from 70 to 100% of the Federal subsidies in addition to the fuel tax already imposed while remaining silent in the matter of recovery of the much higher subsidies continuing to be given to the railroads.

Such gross disparity of treatment results in an artificial boost in all transportation costs, which are passed on the the shipper who adds it on to his bill and finally, the unfortunate consumer and taxpayer picks up the tab.

In the mean time, the most efficient mode, the inland waterways, is forced into a less competitive position thus creating a diversion of cargo to the railroads.

Deregulation of the railroads under the provisions of the Staggers Act adds further to this disparity.

There is certainly no arguing the basic premise of the Administration that the "beneficiaries should pay" providing the beneficiaries are clearly delineated and treated fairly and equitably in the matter of allocation of subsidies and provisions for pay-back.

It should also be noted that one of the greatest beneficiaries of the services performed by the transportation modes comes in the form of customs receipts totaling some $10 billion or more each year. Surely a goodly portion of this should be allocated each year to the transportation modes in proportion to their participation in the movement of the import cargo generating these customs receipts.

Before any user charges or taxes are placed upon any mode, a comparable financial operating base should be determined for all competing modes and financial credit be given for each mode's contribution in the form of cash customs receipts and enhancement to the national security. User charges and taxes may then be assessed to recover such differences that might exist between these benefits to the Federal government and the subsidies provided by the Federal government.

Taxes in excess of this which can be justified in order to meet Federal deficits may then be applied across the board to all modes in a fair and equitable manner without destroying the competitive advantages of each mode and the overall efficiency of the nation's transportation system.

A bill along these lines providing for a comprehensive approach to the problem of funding projects for rail, highway, air and waterways through allocation of a portion of the customs receipts to each mode has been introduced as S1445 and referred to the Senate Finance Committee.

This is certainly not a new concept by any means as this quote from history attests:

> "In the period following the War of 1812, the United States adopted a policy known as The American System. It must have been one of the then-young country's first ventures into resource planning.
>
> The System called for the rim along the East coast, perhaps from Virginia north, to be reserved for manufacturing facilities while the South and West - Ohio, Indiana, Illinois, and environs-were assigned the task of agricultural production. A tariff schedule would "protect" the brave new factories from European competition and some of the revenues collected as duty on the inevitable imports would finance a system of roads and canals that would enable farmers to reach their domestic, markets and the ports where the commodities could be loaded for foreign markets."

Further, by law passed in 1935, the Department of Agriculture receives an allocation of 30% of the customs each year for, among other things, the promotion of exports.

We are keenly aware that this does not offer a major contribution to the Administration's search for additional means of creating revenues to run the government; however, it does provide a vehicle for the development of a sound, most economical and efficient intermodal transportation system which will generate significant savings to the shipper, the consumer and, most important, the taxpayer. At the same time it will enhance our nation's capabilities to compete in world markets. Presently wasted funds thus saved could be used for other worthy purposes.

This Nation is sorely in need of a comprehensive national transportation plan to replace the piecemeal, wasteful mode by mode approach which continues to generate gross inequities among modes and unjustified higher costs to the consumer and taxpayer.

In summary, we are opposed to any taxes or user charges upon the inland shallow draft navigable waterways until they can be conclusively justified by a thorough unbiased economic study which includes a determination of the impact upon the infrastructure of the nation including the inland ports and terminals and the local and regional areas they serve. This detailed analysis must include a breakdown which clearly identifies the beneficiaries of the federal subsidies involved.

We are not opposed to the assessment of user charges or taxes provided they are imposed in and on a fair and equitable basis to all modes and to all clearly delineated beneficiaries.

Mr. Chairman, Members of the Subcommittee, we most respectfully ask your careful consideration of the matters brought forth in this presentation and urge your support in providing our nation with the most efficient transportation system possible thereby enhancing not only the domestic economy but also our competitive edge in world markets.

This opportunity to appear before you is deeply appreciated.

Thank you, very much.

Milton P. Barschdorf
Chairman of the Board

Testimony
of
W. J. "Bill" Mueller
Director, Traffic and Transportation
Agrico Chemical Company
before the
Water Resources Subcommittee
Senate Committee on Environment
& Public Works

Hearing Date: July 18, 1983

The Fertilizer Institute
1015 18th Street, N.W., Washington, D. C. 20036
202-861-4900 Telex 89-2699

Mr. Chairman, my name is W. J. "Bill" Mueller, and I am Director, Traffic and Transportation for Agrico Chemical Company, Tulsa, Oklahoma. I appear here today on behalf of The Fertilizer Institute.

The Fertilizer Institute (TFI) is a voluntary, non-profit association whose members represent approximately 95 percent of the domestic fertilizer production in the United States. The Institute represents over 320 members including producers, manufacturers, traders, retail dealers and distributors of fertilizer and fertilizer materials. Its members are major shippers, receivers and exporters of fertilizer and fertilizer materials, and a vital link in America's agricultural food chain.

We appreciate this opportunity to present our industry's views regarding cost recovery of the expenses associated with inland waterway navigation programs and, more specifically, S. 1554, the Administration's proposed "Inland Waterway Improvement and Cost Recovery Act of 1983."

The fertilizer industry is a major user of the inland waterway system. According to the U.S. Department of Transportation's "205 Study," the industry transported approximately nine million tons of fertilizer raw materials and finished products through the Nation's waterways in fiscal year 1981. In addition, a comprehensive survey, undertaken for TFI by the independent accounting firm of

Ernst & Whinney, in 1981 (1980 fertilizer tonnage), indicated that 29 percent of all fertilizer transported moved by barge when analyzed on a ton-mile basis.

Briefly, TFI opposes enactment of S. 1554 because:

1) It will place an unnecessary burden on American agricultural exports.
2) There is inadequate information regarding cost allocation of the inland navigational system.
3) Enactment of S. 1554 will result in a ton-mile tax plus the current fuel tax -- an inequitable user fee policy for water transportation.

The federal government subsidizes all modes of transportation. These subsidies take the form of grants to state and local governments for airport and highway construction, operating subsidies for urban mass transit systems, operation and maintenance of inland waterways and the Nation's ports, subsidies to railroads by maintaining the solvency of the Railroad Retirement Board, the viability of Conrail and Amtrak, special treatment under ERTA (depreciation), and others.

The federal government has also adopted the policy of cost recovery through user fees for most modes of transportation. Aviation users supplement federal expenditures through airport and airway trust funds, and taxes on passenger tickets, cargo weight bills, aircraft registration, aircraft weight, general aviation fuel, and aircraft tires and tubes.

Highway users fund highway costs through the highway trust fund, by a tax on fuel, tires and tubes. The federal highway fuel tax recently was increased from five to nine cents per gallon to help repair the Nation's highways and bridges.

Waterway users fund the inland waterway trust fund through a tax on fuel. There are approximately $85 million in fuel tax revenues currently in the Inland Waterway Trust Fund to be used for navigation construction or rehabilitation projects. Since its conception three years ago, no money from this fund has been authorized for new projects.

The waterway users fuel tax is currently six cents per gallon. The tax increases to eight cents per gallon in October 1983, and 10 cents per gallon in 1985. At the 1985 tax levels, the National Waterway Conference projects it will produce 75 million annually, approximately 20 percent or more of the expected operation and maintenance (O&M) expenditures.

There are no similar trust funds supported by user fees to recover federal subsidies to railroads. Thus, federal user fee policy, both in terms of subsidy level and cost recovery to the various modes of transportation, is inconsistent and inequitable.

S. 1554 seeks to recover 70 percent of O&M expenses by the introduction of a ton-mile tax. Seventy percent of new construction costs would also be recovered by a segmented ton-mile tax. However, what the actual costs to construct, operate and maintain navigational locks and perform necessary dredging of the inland system have not been demonstrated adequately.

The initial Administrative proposal called for 100 percent cost recovery of operating and maintenance costs. However, after further consideration, the cost recovery objective was dropped from 100 percent to 70 percent, as outlined in S. 1554.

What economic factors relative to the waterway system caused the Administration to decide to cut the cost recovery objective? It appears that this cut was made not in light of reasoned analysis of waste in the Corps program, nor for reasons of pure economic efficiency, nor for the reasons of identifying the true cost of constructing, operating and maintaining the waterway system, but rather, this was a number pulled from thin air that the Office of Management and Budget hopes will force the Congress to accept their wishes. We hope, very much, that this Committee, and other appropriate bodies will have a meaningful input in determining what are the best actions to take on these very extremely complex issues.

The Administration indicates in S. 1554 that it wishes to recover 70 percent of new construction costs by implementing a segment ton-mile tax to recover the necessary fund. However, S. 1554 contains no provision that would repeal the existing fuel tax paid by barge lines. Thus, the two tax systems together would recover substantially more revenue for new construction projects than requested by the Administration.

Considering the "blank check" aspects of S. 1554, and the lack of information regarding realistic allocation of navigational costs, TFI must oppose its enactment.

On another front, this legislative proposal could not come at a more inopportune time for the fertilizer and agriculture industries. Today, agricultural industries are facing their greatest challenges in history.

Domestic fertilizer consumption decreased 10 percent in FY 1982 and projected to decrease 10-15 percent in 1983, due to the Payment-In-Kind program. Further, fertilizer exports have plunged by 25 percent since 1981.

Food and fiber exports have also dropped precipitously for the third year in a row. Agriculture exports have dropped from a peak of $43.8 billion in 1981 to $39.1 billion in 1982, and in 1983, USDA estimates that they will drop even further, to $35.5 billion. Prospects for 1984 are not strong. If increased shipping costs, as a result of user fees, are passed along to the U.S.' foreign customers, American bulk farm exports will be less competitive in the international market.

American agriculture and farmers received a "double hit" with inland waterway user fees. They must pay the user fees on fuel and fertilizer inbound and on the grain outbound. Already, 35-40 percent of the delivery price of U.S. fertilizer to the farm is directly related to the cost of freight rates.

Farmers simply will not be able to compete in the world market if forced to absorb higher shipping costs in the form of user fees. Further, the agricultural marketing chain will force the user fee costs back to the farmer in the form of lower income.

The user fee proposal is yet another means of forcing a few selected industries, namely grain, fertilizer and coal, to bear the major portion of the O&M and new construction costs of the inland waterways. TFI submits that the federal government has an important role to play in the Nation's waterway system. It is vital that conditions remain adequate for the level of commerce necessary for the nation to progress. The continued development and maintenance of our commercial transportation infrastructure have been in the past and still remain a national -- not just a local -- concern. It is certainly valid public policy for the federal government to participate in projects that are of national concern and importance.

In conclusion, the law is in place that would recover $75 million annually by 1985, from fuel taxes that could be used for O&M and new construction of the inland waterway system. These revenues should be sufficient to meet the most pressing needs to maintain the waterway system. Congress should not act hastily in increasing waterway user fees until the economic and competitive consequences of the current fuel tax system has sufficient time to be recognized and evaluated. Requiring an increase in the user charges associated with the water transportation system without a similar user fee applied to a competitive form of transportation -- such as the railroads -- could be disasterous to the barge system and barge companies. In addition, increased waterway user fees place a double burden on American farmers and farm exports.

We submit that S. 1554 should not be enacted and that Congress make a very careful analysis of the utilization of current waterway fuel taxes before considering additional waterway user fees.

Thank you.

TESTIMONY OF

C. PHILLIP BAUMEL

CHARLES F. CURTISS DISTINGUISHED
PROFESSOR OF AGRICULTURE
AND EXTENSION ECONOMIST

IOWA STATE UNIVERSITY

ON THE

IMPACT OF ALTERNATIVE USER FEES ON AGRICULTURAL COMMODITIES TRANSPORTED ON THE INLAND WATERWAY SYSTEM

TO THE

UNITED STATES SENATE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

SUBCOMMITTEE ON WATER RESOURCES

AUGUST 23, 1983

My name is C. Phillip Baumel. My title is Charles F. Curtiss Distinguished Professor of Agriculture and Extension Economist at Iowa State University, Ames, Iowa. This testimony is based on a continuing research-extension effort at Iowa State University supported by Federal funds through Smith-Lever and Hatch Act appropriations and by other federal and state funds.

In 1982, three graduate students and I completed an analysis of the impacts of inland waterway user charges on grain and fertilizer costs and flows. To illustrate the acceptance of this analysis by various industry and academic groups, I have listed three national honors earned by this study for excellence in economic and policy research:

1. Awarded $500 for the best research paper on inland waterway user charges at the Waterway User Charge National Research Conference, University of Illinois, June, 1982.
2. Awarded $1,000 for the best paper on waterway transportation economics and policy by the National Waterways Foundation, October, 1982.
3. Awarded $2,500 for the outstanding research paper presented at the 23rd Annual Meeting of the Transportation Research Forum in New Orleans, October, 1982.

A brief summary of the results of this analysis as well as an analysis of S.1554, entitled, "The Inland Waterway Improvement and Cost Recover Act of 1983" are presented in this testimony. S.1554 does not repeal the currently legislated fuel tax which is scheduled to increase to 10 cents per gallon in 1985. Therefore, the 10 cents per gallon fuel tax and the 1.1 mills per ton-mile tax in S.1554 are combined in this analysis. In addition, an analysis is presented of the general market conditions which will determine when various groups will be forced to absorb a significant share of inland waterway user charges.

Table 1 shows the estimated per bushel increase in the cost of barging corn from selected origins to New Orleans resulting from three alternative taxes on the inland waterway system.

Table 1. Estimated Increase in the 1985 Cost of Barging Corn from Selected Origins to New Orleans in Cents per Bushel

		100 Percent Cost Recovery		S.1554		
River	Origin	32.4 Cents per Gallon Fuel Tax	Segment Specific Ton-mile Tax	1.1 Mills Per Ton-Mile	10 Cents Per Gallon Tax	Total
Mississippi	Minneapolis, MN	4.0	6.5	4.9	1.2	6.1
	Clinton, IA	3.0	4.1	3.8	0.9	4.7
	St. Louis, MO	2.0	1.9	2.8	0.6	3.4
	Greenville, MS	0.6	0.6	0.9	0.2	1.1
Illinois	Peoria, IL	2.6	2.8	3.4	0.8	4.2
Ohio	Cincinnati, OH	2.5	2.1	3.8	0.8	4.6
Missouri	Sioux City, IA	6.6	8.5	5.1	2.0	7.1
Arkansas	Catoosa, OK	3.6	17.5	2.5	1.1	2.6
Columbia	Lewiston, ID	2.3	3.7	1.5	0.7	2.2
	Biggs, OR	0.9	0.7	0.6	0.3	0.9
Weighted Average Over All Rivers	All Origins	2.6	3.3	NA	NA	NA

The following conclusions can be drawn from Table 1:

- * The per bushel tax varies widely depending on the river and origin on that river and on the type of tax.
- * The per bushel cost resulting from the 32.4 cents per gallon fuel tax ranges from 0.6 cents per bushel of corn at Greenville, Mississippi to 6.6 cents per bushel at Sioux City, Iowa. The weighted average for all barge grain shipments would be 2.6 cents per bushel.

- The per bushel segment specific ton mile tax ranges from 0.6 cents per bushel at Greenville, Mississippi to 17.5 cents per bushel at Catoosa, Oklahoma. The weighted average tax for all barge shipments would be 3.3 cents per bushel.
- The per bushel cost of the system-wide 1.1 mills per ton-mile tax in S.1554 ranges from 0.9 cents per bushel at Greenville Mississippi to 5.1 cents per bushel at Sioux City, Iowa.
- The per bushel cost of the currently legislated 10 cents per gallon fuel tax combined with the proposed 1.1 mills per ton mile tax in S.1554 ranges from 1.1 cents per bushel at Greenville, Mississippi to 7.1 cents per bushel at Sioux City, Iowa.
- The per bushel cost from a 32.4 cents per gallon fuel tax is lower than the segment specific ton-mile tax on the Mississippi River north of St. Louis and on the Illinois, Missouri, Columbia-Snake and Arkansas Rivers. The segment specific ton-mile tax is cheaper than the fuel tax on the Ohio and Lower Mississippi Rivers. The per bushel fuel tax is lower than the segment tax on the higher cost rivers and on the rivers that have low levels of traffic because the fuel tax spreads the cost of individual rivers over all inland waterway traffic on the entire nationwide river systems while the segment specific ton-mile tax allocates the cost of individual rivers to traffic on that river.
- The per bushel cost of the system-wide 1.1 mills per ton mile tax under S.1554 is lower than either the fuel tax or segment specific ton-mile tax on the Missouri, Arkansas and the Columbia-Snake Rivers because it spreads the high cost of these rivers over all river traffic on the entire river system. However, it results in higher taxes on the Lower Mississippi, Illinois and Ohio Rivers because it

forces these low cost rivers to share the costs of the higher cost rivers.

* The 1.1 mills per ton mile tax combined with the currently legislated 10 cents per gallon fuel tax results in the highest of the three types of taxes on the Mississippi (excluding Minneapolis), Illinois, and Ohio Rivers. These three rivers originated 89 percent of all barge grain shipments during 1978-81.

Table 2 shows the percent that the three tax alternatives are of barge rates and of the total cost of shipping grain from two selected locations at Vincent, Iowa and Westin, Illinois. Vincent is located about 200 miles west of the Mississippi River and Westin is located about 60 miles east of the Illinois River. Barge rates are usually quoted as a percent of benchmark rates taken from a 1975 barge tariff. These rates fluctuate widely with the demand for barge transportation. During the past three months, barge rates at the Barge Call Session of the Merchants Exchange of St. Louis have ranged from 95 to 250 percent of tariff. For this analysis, the barge rates in Table 2 are based on assumed rates of 120 and 200 percent of tariff. The following conclusions can be drawn from Table 2:

* User charges as a percent of barge rates vary widely depending on the river and level of barge rates. At the low barge rate of 120 percent of tariff, the fuel tax is 16.8 percent of the barge rate out of Clinton, Iowa and 16.0 percent of the barge rate out of Peoria, Illinois. As rates rise to 200 percent of tariff (barge rates reached 250 percent of tariff on the Upper Mississippi River on August 15, 1983 and were over 400 percent of tariff in 1979), the fuel tax declines to about 10 percent of barge rates.

Table 2. Per Bushel User Charges as a Percent of Barges Rates and of the Total Cost of Transporting Grain from Vincent, Iowa and Westin, Illinois by Percent of Barge Tariff Under Two Alternative Barge Rates

Transport Cost in Cents per Bushel Excluding User Charges	120 Percent of Tariff		200 Percent of Tariff	
	Vincent, IA	Westin, IL	Vincent, IA	Westin, IL
Rail to river	17.4¢	7.0¢	17.4¢	7.0¢
River elevator margin	3.0¢	3.0¢	3.0¢	3.0¢
Barge rate to New Orleans	17.9¢[1]	16.2¢[2]	29.8¢	27.0¢
Total transport cost	34.3¢	26.2¢	50.2¢	37.0¢
User charges as a percent of barge rates				
32.4 cents per gallon fuel tax	16.8%	16.0%	10.0%	9.6%
segment specific tax	22.9%	17.2%	13.8%	10.2%
S.1554 plus 10 cents per gallon fuel tax	26.3%	17.3%	15.8%	10.3%
User charges as a percent of total transport cost				
32.4 cents per gallon fuel tax	8.7%	9.9%	6.0%	7.0%
segment specific tax	15.6%	10.7%	8.2%	7.6%
S.1554 plus 10 cents per gallon fuel tax	13.7%	16.0%	9.4%	11.4%

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[1] Rate from Clinton, IA

[2] Rate from Peoria, IL

- The segment specific ton-mile tax and the S.1554 ton-mile tax combined with the 10 cents per gallon fuel tax are 17 to 26 percent of barge rates at very low barge rates and 10 to 16 percent of barge rates at 200 percent of tariff.
- User charges as a percent of the total cost of transporting grain by a rail-barge combination from Vincent and Westin to New Orleans at the low barge rate of 120 percent of tariff ranged from 8.7 percent under the fuel tax to 16.0 under S.1554 and the 10 cents per gallon fuel tax. At moderate barge rates of 200 percent of tariff, the user charges ranged from 6.0 percent of total transport cost under the fuel tax to 11.4 percent of total transport cost under S.1554 plus the 10 cents per gallon fuel tax.

Other conclusions from our original study are as follows:[3/]

- Iowa, Illinois, Minnesota and Missouri are the states most affected by user taxes. Under the 32.4 cents per gallon fuel tax, these four states ship 78 percent of the barge grain and pay 82.6 percent of the user taxes. The remaining 15 states using the inland waterways to ship grain would pay only 17.4 percent of the user taxes.
- Barge companies lose less grain traffic under the fuel tax than under the segment tax. A large portion of the barge grain traffic originates on the Upper Mississippi and Illinois Rivers. The fuel tax is

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[3/] For a more complete discussion of these results see Beaulieu, Jeffrey, Robert Hauser and C. Phillip Baumel, "Inland Waterway User Taxes: Their Impacts on Corn, Wheat and Soybean Flows and Transport Costs," Proceedings: Twenty-third Annual Meeting, Transportation Research Forum, Vol. XXIII, No. 1, 1982 and Huyser, Curtis D. and C. Phillip Baumel, "Impact of Inland Waterway User Charges on Fertilizer Flows and Transport Costs," Proceedings: Twenty-third Annual Meeting, Transportation Research Forum, Vol. XXIII, No. 1, 1982.

lower than the segment tax on these rivers because the fuel tax spreads the higher cost of these rivers over traffic on the entire system while the segment specific ton-mile tax recovers the cost of individual rivers from the traffic on those rivers.

* If railroads raise their rates in response to a user charge, the higher rail rates will drive grain traffic back to barges. Since the public cost of the inland waterways are largely fixed in any one year, the higher level of barge traffic will require a lower level of user tax to recover the public expenditures on the river system.

* A ton-mile user tax on fertilizer is up to five times larger than a fuel tax. A fuel tax on dry fertilizer would be assessed only on the incremental fuel consumption required to push barges northbound loaded with fertilizer rather than empty. Since grain would be assessed the fuel tax to move the loaded barge southbound and empty northbound, a fuel tax would result in significantly lower user taxes on dry fertilizer because only about 21 percent more fuel is required to push a loaded barge northbound than an empty barge northbound. Under a ton-mile tax, fertilizer would be charged the same full tax as charged to all other commodities.

* Dry bulk commodity movements, particularly grain and fertilizer shipments, move in larger, more fuel efficient barge tows than most other commodities. The more fuel efficient movements would be assessed less total and per ton or bushel taxes than liquids and other commodities. Thus, other commodities would bear a higher proportion of the tax bill under a fuel tax.

* Although agriculture as a whole would be better off under a fuel tax than under a segment tax, agricultural regions located near the low

cost Ohio and Lower Mississippi Rivers would be relatively better off with a segment specific ton-mile tax. However, the additional costs incurred by these areas would be relatively small under either type of tax.

It is somewhat easier to determine the per bushel costs resulting from alternative user charges than to determine who will ultimately pay the user fees. Most grain moving by barge is destined for the export market through Gulf and Pacific Northwest ports. Therefore, the list of potential groups who might bear the cost of user fees include farmers, river and export elevators, barge companies and foreign buyers.

World grain prices are established by the interaction of many economic forces. It is often difficult to separate the impact of various grain and transportation supply and demand forces. It is these forces, rather than deliberate decision of barge companies that determine whether user charges will be passed forward to foreign buyers and export elevators, backward to farmers and river elevators, or absorbed by barge companies.

Foreign buyers often purchase grain several months in advance to cover their expected needs. The intensity of their buying varies with world grain supply and demand conditions. Buyer and seller perceptions of world supply and demand conditions are reflected in Chicago Board of Trade futures prices. The Gulf basis—that is, the differences between the current price of grain delivered to Gulf export ports minus the nearby futures contract price on the Chicago Board of Trade—reflects world demand conditions for grain at New Orleans. Thus, the Gulf basis provides an indication of who might absorb part of inland waterway user charges. The judgement of colleagues in the grain business, academia and myself is that a Gulf basis of 25 to 35 or more cents per bushel over the nearby Chicago Board of Trade futures price, combined with a shortage of grain transportation, indicates that foreign buyers want grain badly enough to absorb part of user charges of the magnitude included in this analysis. An analysis was made of the Gulf basis from January, 1973 to August, 1983 to determine when foreign buyers probably would have absorbed part of waterway user charges had they been in effect at that time. The months during this 10.5 year period when the Gulf basis exceeded 25 cents per bushel and when there was a shortage of grain transportation were as follows:

January-September, 1973
April-May, 1974
July, 1975
January, 1977
March to May and November, 1978
January to April, 1979

Thus, I conclude that market conditions would have forced foreign buyers to have absorbed a significant share of a user tax during 21 months of the past 128 months or about 16 percent of the time. Under these criteria, there is no chance that any user charges would have been absorbed by foreign buyers following the Russian grain embargo in January, 1980 to the present time. The Gulf basis has been below 25 cents per bushel during this period of time except during May-August, 1983. Moreover, there has been a large surplus of covered hopper rail cars and barges since mid-1980. Railroad and barge companies have been bidding fiercely for grain traffic to haul in idle rail cars and barges. Barge and rail rates have declined during the past three years and river elevator margins are very low. I have heard it said that barge rates and elevator margins are so low that there is no room for them to absorb user charges. However, the grain and grain transportation markets do not care who is making or losing money. Assume two barge companies are competing for a fixed amount of grain. If one barge company offers barges at a price above variable costs including the user fee, the second barge company has the choice of idling barges or reducing the rate. In this case, the company will lose less money by reducing the rate to get the business rather than paying a storage cost on idle barges. The minimum level it will reduce rates is variable cost minus the cost of storing the barges. Below that level the company would be better off to have the barges sit idle. User charges will, however, raise the rate at which the company will decide to idle the barges.

If market conditions including user charges, force some barge companies into bankruptcy, the barges will likely be sold at depressed prices to other barge companies. The companies buying the barges will have lower costs which will enable them to compete effectively at lower barge rates. Table 3 outlines general short run supply and demand conditions which will tend to force various groups to absorb a significant share of inland waterway user charges.

Table 3. General Short Run Market Conditions Which Will Tend to Force Farmers, Barge Companies, Elevators and Foreign Buyers to Absorb a Significant Share of Inland Waterway User Charges

Groups Forced to Absorb A Significant Share of User Charges	Market Conditions		
	Demand for Grain	Barge Rates	Barge and Rail Car Supply
Foreign Buyers and Export Elevators	Strong demand. Gulf corn basis greater than 25¢ per bushel	Well over full barge costs	Shortage of barges and rail cars
Farmers and River Elevators	Moderate demand. Gulf basis less than 25¢ per bushel	Near or slightly over full barge costs	Little or no surplus of barges and rail cars
Barge Companies	Low demand. Gulf corn basis well below 25¢ per bushel	Between variable and full barge costs	Large surplus of barges and rail cars

The basic short-run conclusions from Table 3 are:

- * Supply and demand conditions will tend to force foreign buyers and export elevators to absorb a significant share of user charges when
  - a. demand for export grain is very strong
  - b. barge rates are very high
  - c. demand for barges and rail cars greatly exceeds supply.
- * Supply and demand conditions will tend to force farmers and river elevators to absorb a significant share of user fees when
  - a. the demand for export grain is moderate to strong
  - b. barge rates are near full costs
  - c. barge and rail car fleets are near capacity
- * Supply and demand conditions will tend to force barge operators to absorb a significant share of user fees when
  - a. the demand for export grain is low
  - b. barge rates are low
  - c. there is a large surplus of barges and rail cars

The fundamental conclusion from Table 3 is that, in the short run, supply and demand for export grain and for grain transportation determine who will be forced to absorb inland waterway user charges. These economic forces will not permit one group to deliberately force another group to absorb inland waterway user charges.

In the long run, however, where the long run is defined as the end of the life of a large percent of the existing barge fleet—say 15-20 years—, barge companies must be able to pass user charges on to farmers, elevators and foreign buyers or they will eventually reduce the size of the barge fleet to force rates up to a level which includes user charges. However, the demand for export grain is likely to continue to fluctuate so that even after the barge industry has changed the size of the barge fleet, short run market conditions will again tend to operate in a manner outlined in Table 3 so that farmers, elevators, foreign buyers and barge companies will from time to time, continue to be forced to absorb part of any inland waterway user charge.

II

98TH CONGRESS
1ST SESSION

S. 1554

To provide for the recovery of certain capital and operation and maintenance expenditures assignable to commercial waterway transportation for certain Tennessee Valley Authority and Army Corps of Engineers inland waterway projects, and to authorize construction in specified circumstances.

IN THE SENATE OF THE UNITED STATES

JUNE 28 (legislative day, JUNE 27), 1983

Mr. STAFFORD (by request) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

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A BILL

To provide for the recovery of certain capital and operation and maintenance expenditures assignable to commercial waterway transportation for certain Tennessee Valley Authority and Army Corps of Engineers inland waterway projects, and to authorize construction in specified circumstances.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Inland Waterway Improvement and Cost Recovery Act of 1983".

SEC. 2. As used in this Act:

(a) "Commercial waterway transportation" means any use of a vessel on the inland waterway system of the United States—

(1) in the business of transporting persons or property for compensation or hire, or

(2) in transporting property in the commercial business of the owner, lessee, or operator of the vessel (other than fish or other aquatic animal life caught on the voyage);

(b) "Corps" means the United States Army Corps of Engineers.

(c) "Inland waterway system" means the following inland and intracoastal waterways and associated harbors of the United States:

(1) the Mississippi River and its natural and manmade tributaries and connecting channels upstream from Baton Rouge, Louisiana;

(2) all waterways of the United States and their tributaries with an authorized depth of fourteen feet or less emptying into the Gulf of Mexico west of the Mississippi River;

(3) the Gulf Intracoastal Waterway from Saint Marks River, Florida, to Brownsville, Texas;

(4) the Apalachicola River and its tributaries upstream from its junction with the Gulf Intracoastal Waterway;

(5) the Columbia River and its tributaries upstream from a point immediately downstream of the Bonneville lock and dam project;

(6) the Pearl River and its tributaries upstream from the junction of the West Pearl River with the rigolets;

(7) the Mobile River and its tributaries, including the Tennessee Tombigbee Waterway project, upstream from the Mobile Harbor project;

(8) the Atlantic Intracoastal Waterway between Norfolk, Virginia, and Miami, Florida, via both the Albemarle and Chesapeake Canal and Great Dismal Swamp Canal routes; and

(9) the portions of the Willamette River and its tributaries with authorized depths of fourteen feet or less.

(d) "Secretary" means the Secretary of the Army.

SEC. 3. (a) The Secretary, in consultation with the Secretary of Transportation, shall levy ton-mile fees on commercial waterway transportation on the inland waterway system as follows:

(1) Systemwide fees, adequate to recover annually 70 per centum of anticipated operation and maintenance expenditures of the Tennessee Valley Authority and of the corps, irrespective of the source of such funds, assigned to commercial waterway transportation. Fees will be set at an initial rate of 1.1 mills per ton mile on shipments originating after September 30, 1983.

(2) Segment-specific fees, starting after September 30, 1984, to provide for the recovery of 70 per centum of the capital expenditures of the Tennessee Valley Authority and of the corps, irrespective of the source of such funds, assigned to commercial waterway transportation on projects, or physically separable project features or activities, as determined by the Secretary, for which construction is initiated after September 30, 1983. Expenditures to be recovered for such work shall be limited to funds appropriated for fiscal year 1984 and thereafter, with interest, over the economic life of the improved facility, but not to exceed a period of fifty years from the date of (A) through traffic for construction of new waterways; and (B) completion of the work for other improvements or modifications including, but not limited to, rehabilitation or replacement of existing structures.

(b) The Secretary, in consultation with the Secretary of Transportation, shall adjust fees authorized under this section at least every five years on the basis of (1) anticipated Tennessee Valley Authority and corps expenditures for the inland waterway system and segments thereof; (2) corrections for actual expenditures and amounts recovered; (3) the expected volume of commercial traffic; and (4) any other factors that the Secretary finds reasonable and equitable.

(c) The Secretary, in consultation with the Secretaries of Agriculture and Transportation, is authorized to levy congestion fees, on all users of specific facilities, designed to reduce delays in order to improve the efficiency of the inland waterway system.

(d) Fees collected under this section shall be credited to the Inland Waterways Trust Fund established by section 203 of the Inland Waterways Revenue Act of 1978 (Public Law 95–502). Amounts in the trust fund shall be available as provided by appropriations Acts for making capital improvements and operation and maintenance expenditures on the inland waterway system as defined in this Act.

SEC. 4. (a) For the purposes of developing or assisting in the development of any schedule of fees and determining whether any person is in violation of any requirement of this Act—

(1) the Secretary may require any person engaged in commercial waterway transportation, who is subject to the requirements of this title, to establish and maintain such records, submit such reports, and provide such other information, as the Secretary may reasonably require;

(2) the Secretary may utilize any documents or other information obtained under section 11 of the Act of September 22, 1922 (33 U.S.C. 555); and

(3) upon presentation of credentials, the Secretary or an authorized Federal representative shall have a right of entry to, upon, or through any vessel or any other premises owned or operated by any person engaged in commercial waterway transportation, who is subject to the requirements of this title, and may, at reasonable times, have access to, and make copies of, any records.

(b) Section 11 of the Act of September 22, 1922 (33 U.S.C. 555), is amended by inserting "no more than $200,000" in lieu of "$100".

SEC. 5. (a)(1) Whenever, on the basis of any information available and after opportunity for a hearing, the Secretary finds that any person or entity is in violation of any requirement of this Act, the Secretary shall order the person or entity to comply with the Act, including payment, with interest, of any fees which the Secretary determines to have been wrongfully withheld. Thirty days after the date of an order from the Secretary to a person or entity to be in compliance with this Act, it shall be unlawful for that person or entity to engage in commercial waterway transportation during any period when that person or entity is in violation of any requirement of this Act.

(2) The interest rate used in computing the payments required by this section shall be determined annually by the Secretary of the Treasury as a rate equal to 150 per centum of the average interest rate on thirteen-week Treasury bills auctioned during the preceding three months.

(b) Upon request of the Secretary, the Attorney General may bring a civil action for a permanent or temporary injunction, to assess and recover a civil penalty of not more than $200,000, or both, whenever any person or entity violates any requirement of this Act or fails or refuses to comply with any order issued under subsection (a) of this section. Such penalty shall be deposited in the general fund of the Treasury.

(c) Any action under this section may be brought in the United States district court for the district in which the defendant resides, does business, or is engaged in commercial waterway transportation. Such courts shall have jurisdiction to require compliance, assess appropriate fees or civil penalties, and grant injunctive or other equitable relief. Any vessel or watercraft on account of which any user fee shall have accumulated shall be liable for such fees and may itself be arrested and proceeded against upon principles applicable to Admiralty actions in rem.

Sec. 6. Expenditures for operation and maintenance and for construction and rehabilitation of inland waterway projects subject to recovery in accordance with section 3 of this Act shall be as follows:

(1) for projects authorized only for navigation, costs assigned to commercial navigation will be 100 per centum of costs remaining after subtracting any specific costs for recreation;

(2) for multiple-purpose projects for which costs have been assigned to navigation, costs assigned to commercial waterway transportation will be in accord with that assignment or any subsequent reassignment;

(3) for other multiple-purpose projects providing navigation benefits but for which there have been no cost assignments, costs assigned to commercial waterway transportation will consist of all specific navigation costs, plus 10 per centum of joint-use costs;

(4) for the Mississippi River and tributaries project, harbor improvement features shall be considered as individual projects pursuant to the above provi-

sions of this section. For other features of the Mississippi River and tributaries project, cost assigned to commercial waterway transportation will consist of (A) all specific navigation costs of the channel improvement feature consisting of: (i) maintenance dredging, and (ii) construction and maintenance of dikes, and (B) one-third of the joint-use costs consisting of: (i) construction dredging and construction, operation and maintenance of revetments of the channel improvement feature, and (ii) construction, operation and maintenance of the Old River control feature. Expenditures on construction and rehabilitation for the Mississippi River and tributaries project, except for harbor improvement features, will be considered maintenance; and

(5) costs assigned pursuant to this section may be adjusted to reflect project modifications or other work for which reimbursement is provided under other provisions of law.

SEC. 7. Title II of the Inland Waterways Revenue Act of 1978 (92 Stat. 1696) is amended by deleting section 204 and renumbering sections 205 and 206 as sections 204 and 205, respectively, and by amending the table of contents to be consistent with this section.

SEC. 8. Except as otherwise provided in section 5(a), the interest rate used pursuant to this Act shall be determined by the Secretary of the Treasury, taking into consideration the average market yields on outstanding marketable obligations of the United States with remaining periods to maturity comparable to the reimbursement period of the project, during the month preceding the fiscal year in which funds for the construction of the project are first disbursed.

SEC. 9. (a) After coordination with affected Federal agencies and non-Federal public interests, the Secretary, acting through the Chief of Engineers, is authorized to study, plan, design, construct, and operate and maintain such new improvements and rehabilitations and modifications of existing improvements on the inland waterway system as the Secretary determines to be reasonable and desirable for commercial waterway transportation.

(b) Capital and operation and maintenance expenditures of the corps for work undertaken pursuant to this section, irrespective of the source of such funds, shall be subject to recovery through fees levied on commercial waterway transportation pursuant to section 3 of this Act.

(c)(1) Before the Secretary, acting through the Chief of Engineers, may initiate construction on a plan of improvement authorized by subsection (a) of this section the Secretary shall submit to Congress—

(A) a final environmental impact statement for the plan of improvement, if the Secretary determines that the statement is required by the National Environmental Policy Act of 1969; and

(B) a statement of the Secretary's compliance, at that time, with the Clean Water Act, the Fish and Wildlife Coordination Act, and other statutory requirements applicable to the improvement.

(2) The statements required under paragraph (1) of this subsection and any other actions required by the National Environmental Policy Act of 1969 and other applicable statutes shall be completed on an expedited basis pursuant to schedules, established by the Secretary after consultation with other Federal and State officials having responsibilities therewith. Thereafter, these officials shall make any necessary decisions and provide data and comment, as they deem appropriate, in accordance with the Secretary's schedules.

(3) A plan of improvement, addressed by an environmental impact statement that is submitted to Congress, in accordance with paragraph (1) of this subsection, shall be eligible for construction appropriations and implementation, under subsection (a) of this section, and may be undertaken unless Congress passes and the President approves a joint resolution disapproving the environmental impact statement

within one hundred and eighty calendar days of its receipt by the Congress.

(d) An environmental impact statement, which is submitted to Congress in accordance with subsection (b)(1) of this section and is not disapproved pursuant to subsection (b)(3) of this section, shall be deemed to satisfy the requirements of section 102(2) of the National Environmental Policy Act of 1969.

(e) Claims, alleging that work authorized by this section will deny rights under the Constitution of the United States or that the work is beyond the scope of authority conferred by this section, shall be filed only in a United States district court for a district where the work is located or to be located, or where the alleged injury occurs. Such courts shall have original jurisdiction over the proceedings and shall assign them for hearing at the earliest possible date. Such courts shall not have jurisdiction to grant any injunctive relief against any actions pursuant to this section except—

(1) in conjunction with a final judgment entered in a case involving a claim filed under this section, or

(2) where the petitioner presents a clear and convincing showing that the petitioner is likely to prevail on the merits, that without such an injunction the petitioner will suffer irreparable harm, and that issuance of

an injunction will not lead to unreasonable harm to other parties and is in the public interest.

SEC. 10. The Secretary, in consultation with the Secretaries of Commerce, Transportation, Treasury, Energy, and Agriculture, the Attorney General of the United States, the Administrator of the Environmental Protection Agency and the Director of the Office of Management and Budget, may promulgate, and may from time to time revise, regulations and guidelines to govern the programs authorized by this Act, including but not limited to the determination of inland and intracoastal segments and associated harbors for purposes of establishing a system of segment-specific fees implemented pursuant to section 3(a)(2).

SEC. 11. There are authorized to be appropriated to the Secretary such sums as are necessary to carry out this Act.

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